

# Catalogue of the Diptera (Insecta) of Morocco— an annotated checklist, with distributions and a bibliography

Kawtar Kettani<sup>1</sup>, Martin J. Ebejer<sup>2</sup>, David M. Ackland<sup>3†</sup>, Gerhard Bächli<sup>4</sup>,  
David Barraclough<sup>5</sup>, Miroslav Barták<sup>6</sup>, Miguel Carles-Tolrá<sup>7</sup>, Milos Černý<sup>8</sup>,  
Pierfilippo Cerretti<sup>9</sup>, Peter Chandler<sup>10</sup>, Mohamed Dakki<sup>11</sup>, Christophe Daugeron<sup>12</sup>,  
Herman De Jong<sup>13</sup>, Josef Dils<sup>14</sup>, Henry Disney<sup>15</sup>, Boris Droz<sup>16</sup>, Neal Evenhuis<sup>17</sup>,  
Paul Gatt<sup>18</sup>, Gustavo Graciolli<sup>19</sup>, Igor Y. Grichanov<sup>20</sup>, Jean-Paul Haenni<sup>21</sup>,  
Martin Hauser<sup>22</sup>, Oumnia Himmi<sup>11</sup>, Iain MacGowan<sup>23</sup>, Bruno Mathieu<sup>24</sup>,  
Mohamed Mouna<sup>11</sup>, Lorenzo Munari<sup>25</sup>, Emilia P. Nartshuk<sup>26</sup>, Oleg P. Negrobov<sup>27†</sup>,  
Pjotr Oosterbroek<sup>13</sup>, Thomas Pape<sup>28</sup>, Adrian C. Pont<sup>3</sup>, Grigory V. Popov<sup>29</sup>,  
Knut Rognes<sup>30†</sup>, Marcela Skuhrová<sup>31</sup>, Vaclav Skuhrový<sup>31†</sup>, Martin Speight<sup>32</sup>,  
Guy Tomasovic<sup>33</sup>, Bouchra Trari<sup>1</sup>, Hans-Peter Tschorsnig<sup>34</sup>, Jean-Claude Vala<sup>35</sup>,  
Michael von Tschirnhaus<sup>36</sup>, Rüdiger Wagner<sup>37</sup>, Daniel Whitmore<sup>34</sup>,  
Andrzej J. Woźnica<sup>38</sup>, Tadeusz Zatwarnicki<sup>39</sup>, Peter Zwick<sup>40</sup>

**1** Laboratory Ecology, Systematics, and Conservation of Biodiversity (LESCB), URL-CNRST N°18, FS, Abdelmalek Essaadi University, Tetouan, Morocco **2** National Museum and Galleries of Wales, Entomology Section, Department of Natural Sciences, Cathays Park, Cardiff CF1 3NP, Wales, UK **3** Oxford University Museum of Natural History, Parks Road, Oxford OX1 3PW, UK **4** Zoological Museum Winterthurerstr. 190. CH-8057 Zürich, Switzerland **5** School of Life Sciences, University of Kwa Zulu-Natal, P. Bag X54001, Durban 4000, South Africa **6** Department of Zoology and Fisheries, Faculty of Agrobiology, Food and Natural Resources, Czech University of Life Sciences Prague, Kamýcká 129, 165 00 Praha-Suchbát, Czech Republic **7** Avda. Riera de Cassoles 30, ático 1. E-08012 Barcelona. Spain **8** CZ-763 63 Halenkovice 1, Czech Republic **9** Dipartimento di Biologia e Biotechnologie “Charles Darwin”, Università di Roma “La Sapienza”, Piazzale, Aldo Moro 5, 00185 Rome, Italy **10** 606B Berryfield Lane, Melksham, Wilts SN12 6EL, England, UK **11** Laboratoire de Géo-Biodiversité et Patrimoine naturel, Institut Scientifique, Université Mohammed V de Rabat, Rabat, Morocco **12** MECADEV, UMR 7179 CNRS/MNH. Muséum national d'Histoire naturelle, CP 50 – Entomologie, 45 rue Buffon, 75005 Paris, France **13** Naturalis Biodiversity Center, Postbus 9517, 2300 RA Leiden, Netherlands **14** Krekelberg, 149, 2940 Hoevenen, Belgium **15** Department of Zoology, University of Cambridge, Downing Street, Cambridge CB2 3EJ, England, UK **16** Ruelle de l'Aurore 7, CH-2300, La Chaux-de-Fonds, Switzerland **17** Linsley Gressitt Center for Research in Entomology, Bishop Museum, 1525 Bernice Street, Honolulu, Hawaii 96817-2704, USA **18** 44 Monarch Close, Wickford SS11 8GF, Essex, England, UK **19** Instituto de Biociências, Universidade Federal do Mato Grosso do Sul, Campo Grande, MS, Brasil **20** Institute of Plant Protection, Shosse Podbelskogo 3, VIZR, St. Petersburg-Pushkin 196608, Russia **21** Muséum d'histoire naturelle, Rue des Terreaux 14, CH-2000 Neuchâtel, Switzerland **22** Plant Pest Diagnostics Branch, California Department of Food & Agriculture 3294

† Deceased.

Meadowview Road, Sacramento, CA 95832-1448, USA **23** National Museums of Scotland, Collection Centre, 242 West Granton Road, Edinburgh EH5 1JA, Scotland **24** Institut de Parasitologie et de Pathologie Tropicale, UR7292 Dynamique des interactions hôte pathogène, Université de Strasbourg, 3 rue Koeberlé, 67000 Strasbourg, France **25** Entomology Section, Natural History Museum, Fontego dei Turchi, S. Croce 1730, I-30135 Venezia, Italy **26** Zoological Institute of Russian Academy of Sciences, Universitetskaya naberezhnaya 1, 199034, St. Petersburg, Russia **27** Voronezh State University, Universitetskaya sq., 1, 394006 Voronezh, Russia **28** Natural History Museum of Denmark, Zoological Museum, Universitetsparken 15, DK-2100 Copenhagen, Denmark **29** Section of Entomology and Collection Management, I.I.Schmalhausen Institute of Zoology, National Academy of Sciences of Ukraine, Bohdan Khmelnytsky st., 15, 01601 Kyiv, Ukraine **30** University of Stavanger, Faculty of Arts and Education, Department of Early Childhood Education, NO-4036 Stavanger, Norway **31** Bitovská 1227, CZ–140 00 Praha 4, Czech Republic **32** Department of Zoology, Trinity College, Dublin, Ireland **33** Université de Liège, Gembloux Agro-Bio Tech, Unité d'Entomologie fonctionnelle et évolutive (Prof. E. Haubruge), Passage des Déportés, 2, 5030 Gembloux, Belgium **34** Staatliches Museum für Naturkunde Stuttgart, Rosenstein 1, 70191 Stuttgart, Germany **35** Résidence Belle Fontaine, Bat B, 16 Avenue de la Trillade, 84000 Avignon, France **36** Fakultät Biologie, Universität Bielefeld, Postfach 100131, D-33501 Bielefeld, Germany **37** Limnologische Fluss-Station des Max-Planck Instituts für Limnologie, P.O. Box 260, D-36105 Schlitz, Germany **38** Institute of Environmental Biology, Wrocław University of Environmental & Life Sciences, Koźuchowska 5b, 51-631 Wrocław, Poland **39** Institute of Biology, Opole University, ul. Oleska 22, 45-052 Opole, Poland **40** Schwarzer Stock 9, 36110 Schlitz, Germany

Corresponding author: Kawtar Kettani (kettani.ka@gmail.com, kkettani@uae.ac.ma)

---

Academic editor: Torsten Dikow | Received 31 December 2020 | Accepted 4 November 2021 | Published 12 April 2022

---

<http://zoobank.org/1FC0B36F-B7BD-4305-9D8B-642A571A5F69>

---

**Citation:** Kettani K, Ebejer MJ, Ackland DM, Bächli G, Barraclough D, Barták M, Carles-Tolrá M, Černý M, Cerretti P, Chandler P, Dakki M, Daugeron C, De Jong H, Dils J, Disney H, Droz B, Evenhuis N, Gatt P, Graciolli G, Grichanov IY, Haenni J-P, Hauser M, Himmi O, Macgowan I, Mathieu B, Mouna M, Munari L, Nartshuk EP, Negrobov OP, Oosterbroek P, Pape T, Pont AC, Popov GV, Rognes K, Skuhrová M, Skuhrový V, Speight M, Tomasovic G, Trari B, Tschorsnig H-P, Vala J-C, von Tschirnhaus M, Wagner R, Whitmore D, Woźnica AJ, Zatwarnicki T, Zwick P (2022) Catalogue of the Diptera (Insecta) of Morocco—an annotated checklist, with distributions and a bibliography. ZooKeys 1094: 1–466. <https://doi.org/10.3897/zookeys.1094.62644>

---

## Abstract

The faunistic knowledge of the Diptera of Morocco recorded from 1787 to 2021 is summarized and updated in this first catalogue of Moroccan Diptera species. A total of 3057 species, classified into 948 genera and 93 families (21 Nematocera and 72 Brachycera), are listed. Taxa (superfamily, family, genus and species) have been updated according to current interpretations, based on reviews in the literature, the expertise of authors and contributors, and recently conducted fieldwork. Data to compile this catalogue were primarily gathered from the literature. In total, 1225 references were consulted and some information was also obtained from online databases. Each family was reviewed and the checklist updated by the respective taxon expert(s), including the number of species that can be expected for that family in Morocco. For each valid species, synonyms known to have been used for published records from Morocco are listed under the currently accepted name. Where available, distribution within Morocco is also included. One new combination is proposed: *Assuania melanoleuca* (Séguy, 1941), **comb. nov.** (Chloropidae).

## Keywords

Bibliography, classification, gnats, midges, new combination, new records, taxonomy, true flies

## Foreword

Almost everyone is now aware that there is a biodiversity crisis, and even the popular press regularly reports on general declines in the diversity of species as well as more specific threats to the distribution and abundance of species. Despite this growing awareness of the importance of biodiversity to the health of our planet and thus to the welfare of humankind, relatively little attention has been paid to the glaringly obvious point that it is impossible to objectively assess changes such as declines in diversity in the absence of baseline data and a good taxonomic infrastructure. In other words, if you don't know what you have to start with it is impossible to know what you are losing (or gaining). Recognition of invasions, extirpations, extinctions, range changes and changes in phenology all pivot on the documentation of what species occur in an area to begin with. Regional catalogues like this one provide both a baseline and a startling wake-up call; in this case with the announcements of 156 previously undocumented species, records of many hitherto unrecorded genera, and the first recognition of half a dozen families new to the country.

Documentation of the dipteran diversity of Morocco is of special significance both in terms of taxon and area. The taxon, Diptera or true flies, is one of the two or three largest orders of living things, with hundreds of thousands of undescribed species worldwide in addition to the approximately 160,000 currently named species. The Moroccan Diptera fauna is relatively well known compared to other parts of Africa, but nonetheless the current catalogue more than doubles the number of species known from the country as of the last inventories a couple of decades ago. This impressive advance in the documentation of Morocco's significant dipteran fauna is of course in part due to the great dedication and Herculean effort on the part of the lead author, Prof. Kettani. But, it is also a great credit to the community of dipterists who rallied to the cause by meticulously cataloguing their chosen families.

Approximately 33 of the 60 contributors are retired entomologists or amateur dipterists who volunteered their time to contribute to this work. Sadly, a few have passed away since they made their contribution. It is both impressive and worrisome that more than half of those 60 top experts on the taxonomy of the region's Diptera are retired or amateur, since there is a pressing and ongoing need for specialized expertise on all of the families of Diptera. Hopefully the framework, and the challenge, provided by this thorough description of our current state of knowledge of Moroccan flies will help and encourage new students of dipterology while at the same time providing a foundation for ongoing assessments of the dipteran diversity of North Africa.

I congratulate all involved for the production of such an important contribution to our understanding of the biodiversity of the region, and for the successful completion of the first full Diptera catalogue for any African country.

Stephen A. Marshall  
Professor, University of Guelph, Canada  
October 2020

## Table of contents

Contributions .....	4
Introduction.....	4
Arrangement of the catalogue.....	17
Acknowledgements.....	19
Nematocera.....	20
Brachycera.....	162
References .....	364
Index by families .....	439
Index by genera.....	440
Index by species.....	447

## Contributions

This catalogue was conceived by K. Kettani (KK) in 2011 and then further developed and planned together with Martin J. Ebejer (MJE). These plans included more fieldwork, predominantly by KK and MJE, with some contribution by students, carried out in 2012–2019, which resulted in about 1000 new species records for Morocco and 23 species (in 12 families) new to science. These records were published prior to the end of 2020 and the papers are included in the references and cited under the appropriate families. KK compiled the data and the preliminary list of species for each family. The taxonomic specialists (co-authors and contributors) revised any taxonomic issues, added data available to them and updated nomenclature. Contributors are thanked in the Acknowledgements, as well as mentioned in their sections of the checklist. The distributions of species in Morocco, with the appropriate citations, were added by KK. The introduction was written by KK and supplemented with additional information by MJE, who also checked the English language.

## Introduction

### Aims of the catalogue

Although the national study on biodiversity, *Etude nationale sur la biodiversité* (Dakki 1997; Mouna 1998), was the only important synthesis of entomological studies carried out in Morocco until now, important data on the Diptera are lacking. For example, no taxonomic rank such as subfamily and tribe, and no synonyms or revised generic combinations, names of museums or private collections that house species described from Morocco were included. No information was provided on the habitats and distribution of species in Morocco. Furthermore, the information resulting from



the national study on biodiversity is now outdated. A large number of important recent publications, cited appropriately under each family, provide much additional data to the lists published in 1997 and 1998, almost doubling the number of known species. The main aims of this catalogue are to bring together all this information by providing an up-to-date checklist according to the current nomenclature and systematics, to provide synonyms used in older literature that dealt with the Moroccan fauna and to give regional distribution data. Finally, an essential comprehensive bibliography is provided.

This catalogue is the first for a North African country and it may prove useful also for neighbouring countries. It is hoped that it will provide a sound foundation for anyone choosing to study a group of Moroccan Diptera. It could indicate where the greatest need for investigation lies, both with regard to areas of the country that have been poorly studied and taxonomic groups (or families) that may benefit from more attention. It is undoubtedly not a complete inventory and many more discoveries are expected.

The faunistic knowledge of the Diptera of Morocco from 1787 to 2021 is summarized and updated, providing the first catalogue of the Moroccan species of Diptera. In total, 3057 species (975 Nematocera and 2082 Brachycera) in 93 families, classified into 949 genera (250 in Nematocera and 699 in Brachycera) are listed (Tables 1, 2).

**Table 1.** Families of Nematocera with contributing specialists and numbers of taxa.

Family	Specialist(s)	Subfamilies	Genera	Species
Anisopodidae	Haenni	1	1	3
Bibionidae	Haenni	1	2	10
Blephariceridae	Zwick	1	1	4
Cecidomyiidae	Skuhrová & Skuhrový	3	31	57
Ceratopogonidae	Mathieu	3	6	62
Chaoboridae	Wagner	1	2	2
Chironomidae	-	7	100	412
Culicidae	Trari, Himmi & Dakki	2	7	43
Dixidae	Wagner	-	2	12
Keroplattidae	Chandler	1	2	2
Limoniidae	Oosterbroek	4	22	67
Mycetophilidae	Chandler	5	25	64
Pediciidae	Oosterbroek	1	2	6
Psychodidae	Wagner	2	12	51
Ptychopteridae	Wagner	1	1	5
Scatopsidae	Haenni	3	11	13
Sciaridae	Heller	-	12	70
Simuliidae	-	1	6	43
Thaumaleidae	Wagner	-	1	2
Tipulidae	Oosterbroek & de Jong	2	3	39
Trichoceridae	Krzemińska	1	1	8
			<b>Total: 250</b>	<b>Total: 975</b>

**Table 2.** Families of Brachycera with contributing specialists and numbers of taxa.

Family	Specialist(s)	Subfamilies	Genera	Species
Acroceridae	Nartshuk	2	6	13
Agromyzidae	Černý	2	12	62
Anthomyiidae	Ackland	2	14	36
Anthomyzidae	Ebejer	-	2	2
Asilidae	Tomasovic	9	42	131
Asteiidae	Ebejer	1	2	5
Atelestidae	Gatt	-	1	1
Athericidae	Mouna	1	1	2
Aulacigastridae	Ebejer	-	1	1
Bombyliidae	Ebejer & Dils	11	48	248
Braulidae	-	1	1	1
Calliphoridae	Rognes	5	5	8
Camillidae	Ebejer	-	1	4
Canacidae	Munari	2	3	15
Carnidae	Ebejer	-	1	3
Chamaemyiidae	Ebejer	2	5	18
Chloropidae	von Tschirnhaus & Ebejer	3	34	74
Chyromyidae	Ebejer	2	3	22
Clusiidae	Ebejer	-	1	1
Coelopidae	-	1	1	1
Conopidae	-	5	10	34
Cryptochetidae	Nartshuk	-	1	1
Diastatidae	Ebejer	2	2	2
Dolichopodidae	Grichanov & Negrobov	12	36	112
Drosophilidae	Bächli	2	9	26
Dryomyzidae	-	1	1	1
Empididae	Daugeron	3	8	40
Ephydriidae	Zatwarnicki	5	43	117
Fanniidae	Pont	-	1	10
Helcomyzidae	-	1	1	1
Heleomyzidae	Woźnica	3	5	19
Hippoboscidae	Droz	3	10	17
Hybotidae	Gatt	2	10	44
Lauxaniidae	Ebejer	2	8	27
Lonchaeidae	MacGowan	1	4	5
Lonchopteridae	Barták	1	1	4
Micropezidae	Ebejer	-	1	1
Milichiidae	-	3	6	8
Muscidae	Pont	6	25	115
Mydidae	Dikow	3	4	9
Mythicomyiidae	Evenhuis	4	6	8
Nemestrinidae	Barracough	2	4	13
Nycteribiidae	Graciolli	1	4	8
Odiniidae	Ebejer	1	1	2
Oestridae	Pape	2	5	10

Family	Specialist(s)	Subfamilies	Genera	Species
Opomyzidae	-	-	2	5
Pallopteridae	Ebejer	-	1	1
Phoridae	Disney	-	2	3
Piophilidae	Ebejer	1	3	3
Pipunculidae	Ebejer	2	7	16
Platypezidae	Ebejer	1	3	3
Platystomatidae	Popov	1	2	4
Polleniidae	Rognes	-	1	12
Psilidae	Ebejer	-	1	1
Rhagionidae	Ebejer	1	1	4
Rhiniidae	Rognes	1	5	17
Rhinophoridae	Pape	1	6	8
Sarcophagidae	Whitmore & Pape	3	16	66
Scathophagidae	-	1	2	3
Scenopinidae	Carles-Tolrá	1	2	11
Sciomyzidae	Vala	1	12	25
Sepsidae	Haenni	1	4	12
Sphaeroceridae	Gatt	3	29	67
Stratiomyidae	Woodley	5	11	40
Streblidae	Graciolli	1	2	2
Syrphidae	Speight	2	50	166
Tabanidae	-	3	11	69
Tachinidae	Cerretti & Tschorsnig	4	88	147
Tephritidae	Norrbom	3	29	69
Therevidae	Hauser	2	9	27
Ulidiidae	Ebejer	2	8	13
Vermileonidae	Ebejer	1	2	6
			<b>Total: 698</b>	<b>Total: 2082</b>

## Brief history of Moroccan dipterology

The study of Diptera in Morocco is still far from being extensive despite the numerous investigations that have taken place so far. Until now, a synthesis of Moroccan Diptera had never been produced. The studies that have been devoted to this group of insects have been limited and sporadic. They were mainly concerned with either taxonomy and descriptions of new species, or faunal studies from specific areas of Morocco with little reference to the habitats of species. This was particularly so for early works such as Becker and Stein (1913), Séguy (1930a, 1934b, 1935a, 1941a, 1941d, 1949a, 1953a), Timon-David (1951), Vaillant (1956b) and, recently, Pârvu et al. (2006), Popescu-Mirceni (2011), and Ebejer et al. (2019). Very few recent works have provided relevant ecological data (Cassar et al. 2005, 2008). Becker and Stein (1913) were the first to publish a list of Moroccan Diptera, at that time comprising only 204 species. Séguy followed

with a long series of valuable publications. In 1930 he produced his first list of Diptera, which included 471 species in 230 genera grouped into 37 families (Séguy 1930). Over the subsequent years, he contributed greatly to the knowledge of the Diptera of Morocco (Séguy 1926, 1934b, 1935a, 1941a, 1941d, 1949a, 1953a, 1957, 1961), where he also referenced an extensive bibliography. Later, Bailly-Choumara (1977) compiled a bibliography of Moroccan Diptera. It took until 1997–1998, with a national study on the biodiversity of Morocco co-ordinated by what was then the Ministry of the Environment, to update the list of the Moroccan insect fauna. This national study was dedicated to the compilation of the results of entomological research conducted in Morocco in order to highlight Moroccan biodiversity. It included a comprehensive inventory of published entomological research conducted in Morocco and was the last work to include a broad overview of Moroccan Diptera. It listed 623 species of aquatic Diptera in 210 genera and 25 families (Dakki 1997) and 928 species of terrestrial Diptera in 350 genera and 57 families (Mouna 1998).

## Terrain and bioclimatic regions

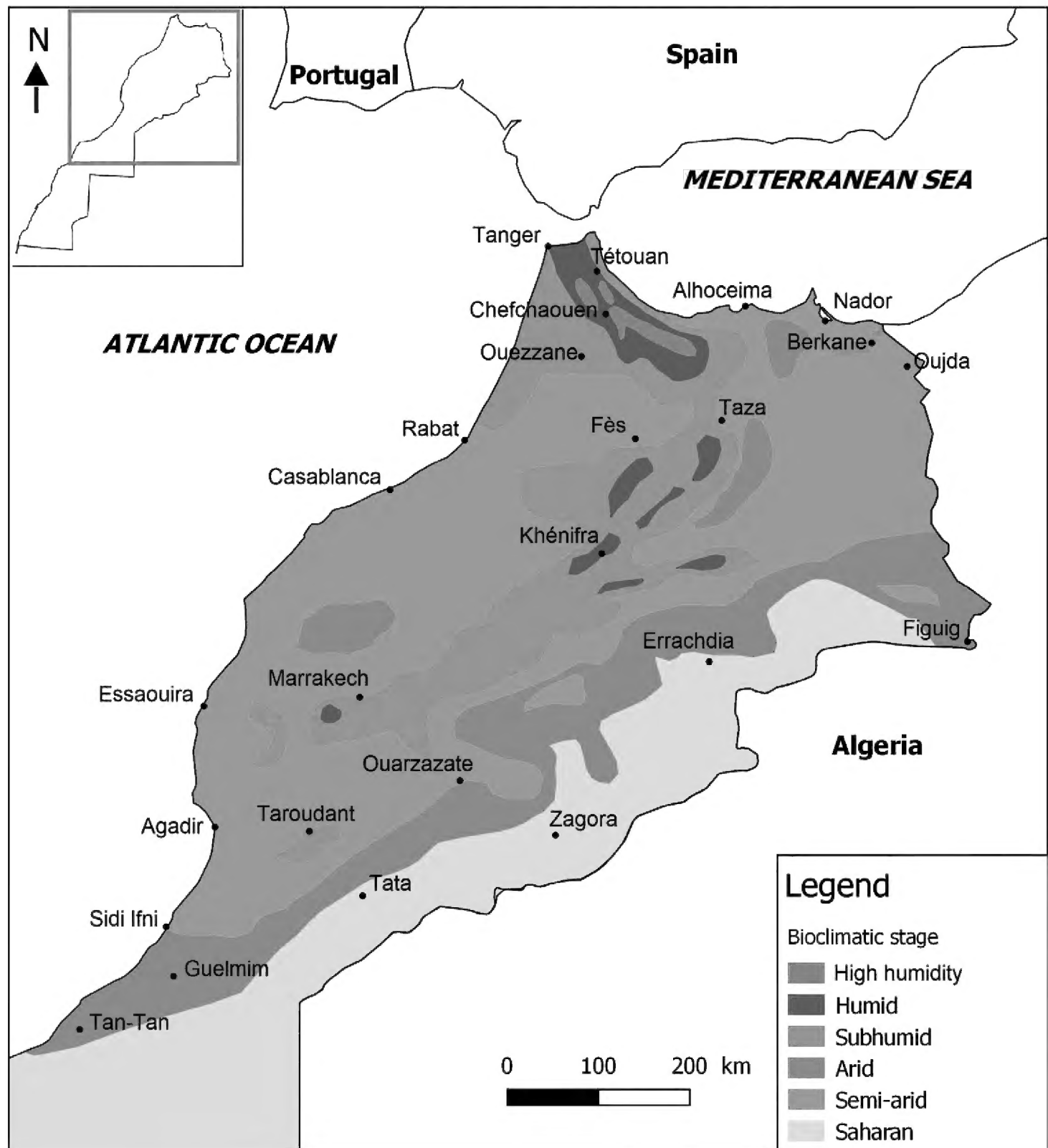
Morocco, located in the westernmost corner of North Africa, constitutes a biogeographical crossroads between the Afrotropical and the western Palaearctic faunas, which may have allowed some exchange of genetic material. The country has a remarkable variety of bioclimates, ranging from humid in the Rif and the Middle and High Atlas to very arid in the Sahara in the south and to the sub-humid and semi-arid plains and foothills (Fig. 1). As a result of this diversity of landscapes and climates, there exists a great biological and ecological diversity in the country.

The geomorphological, orographic and bioclimatic diversity of the country is reflected in its seven distinct biogeographical areas: the Rif, the Atlantic Plain, Eastern Morocco, the Middle Atlas, the High Atlas, the Anti-Atlas and the Sahara. In the checklist, an abbreviated distribution (in bold) is given for each species according to these seven biogeographical areas (Fig. 2).

**Rif:** The Rif consists of a mountainous domain overlooking the Mediterranean Sea in the north of Morocco. It belongs to the Gibraltar Arc or Alborán Sea geological region, part of the Alpine orogenic belt, where the maximum altitude is 2,452 m in the Jbel Tidirrhine mountain range. The climate is mainly of the Mediterranean type and is characterised by high levels of precipitation. This domain is considered very rich and diverse in vegetation cover (Valdés et al. 2002), including nearly all of the Moroccan forest plant species (Médail and Quézel 1999) and integrating five bioclimatic stages.

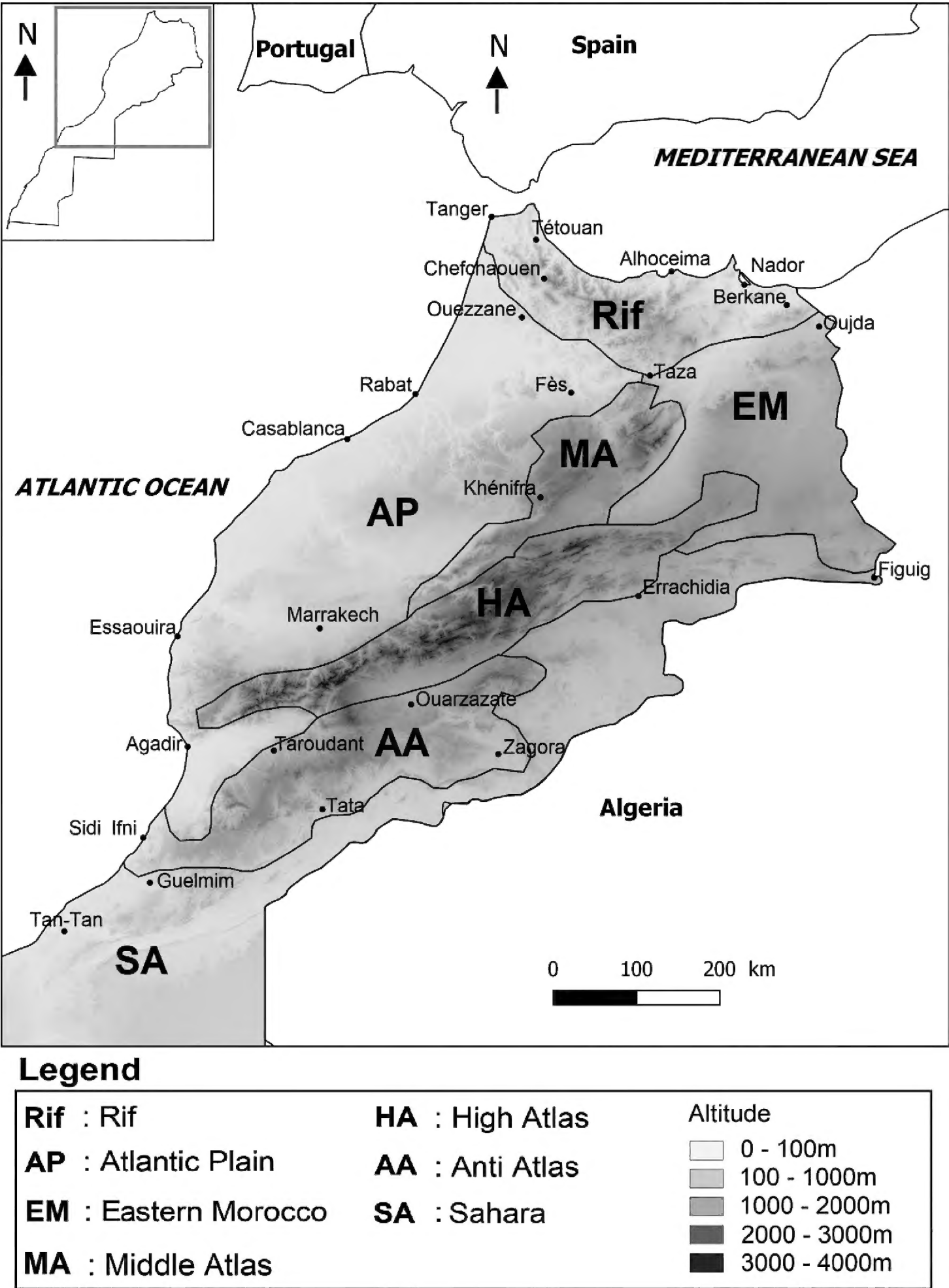
**Atlantic Plain (AP):** Also known as the Moroccan Central Plateau, the Atlantic Plain is an ancient massif located in the northwest of Morocco, between the Atlantic coast and the Middle Atlas Mountains. It consists of a plateau surrounded by medium-altitude mountain massifs and covers an area of 8500 km<sup>2</sup>. With an asymmetrical





**Figure 1.** The major bioclimatic regions of the northern part of Morocco.

shape, the plateau culminates in the south-east at Jebel Mtourzgene (1627 m), located near the town of Oulmès. Its complex geomorphology presents tectonic troughs that have favoured the formation of lakes and rivers. The annual rainfall of this region, concentrated in winter and spring, totals an average of 500 mm, allowing the establishment of Holm Oak and Cork Oak forests in a semi-arid bioclimate (Piqué 1994). Towards the coast, the vegetation is mainly a steppe with Jujube shrubs and Dwarf Palms (*Chamaerops humilis*). The maritime fringe is underlined by cliffs and ancient consolidated dunes.



**Figure 2.** The seven biogeographical regions covering the studied area in the northern part of Morocco.

**Eastern Morocco (EM):** This is an arid region covering the Hauts Plateaux to the northeast of the country. It is the only region of Morocco subject to a true Mediterranean bioclimate, with some influence from the Sahara. The annual rainfall is less than 300 mm, encouraging the dominance of esparto steppe (*Stipa tenacissima*) (Piqué

1994). Its geomorphology is represented by a plateau at an altitude of 1000 m, which gradually decreases from 1500 to 500 m from the city of Midelt to the province of Guercif and is criss-crossed by the Moulouya wadi. In the northwestern part of Eastern Morocco is the Béni Snassen massif, beyond the Guercif depression.

**Middle Atlas (MA):** A mountainous massif located in the centre of Morocco, oriented from south-west to north-east and extending over 350 km (Piqué 1994). This mass of highlands is essentially composed of limestone layers, tabular and of medium altitude in the southwest (tabular Middle Atlas) and undulating in the northeast (folded Middle Atlas) to culminate at 3340 m at Jebel Bou Naceur, which overlooks the high plateaux of Eastern Morocco. The climate, generally subhumid to humid, is cold in winter, giving rise to cedar and Holm Oak forests covering the western slope, which is wetter than the eastern slope and where lakes are abundant and many rivers and streams have their source.

**High Atlas (HA):** The main mountainous massif of Morocco, oriented from west-south-west to east-north-east, is the High Atlas, stretching over more than 700 km from the Atlantic to the east of Morocco, with a north-south width of 50 to 100 km and reaching at Jebel Toubkal an altitude of 4165 m. The whole massif is high, incised by deep valleys that lead to passes through which the mountainous barrier is crossed: the Tizi-n'Test (2100 m) towards the Souss plain and the Tizi-n'Tichka (2200 m) towards the depression of Ouarzazate. The chain is formed by a massif of Palaeozoic rocks surrounded by sedimentary deposits. The relief of the High Atlas is divided into three different entities from west to east: the Western High Atlas, which is the oldest massif and is made up mainly of Jurassic or Cretaceous formations with deep valleys and culminates at Jebel Toubkal; the central High Atlas, which is an essentially limestone massif morphologically dominated by tabular zones culminating at an altitude of 2500 m, stretches between the towns of Azilal and Ouarzazate and is sheltered by the Jebel M'Goum (4071 m); and the Eastern High Atlas, which is formed by the vast high plateaux of the Upper Moulouya, stretches between the cities of Midelt and Imilchil and contains the Jebel Ayachi (3747 m) (Piqué 1994). The bioclimate of this area includes subhumid, humid and semi-arid zones, but with more than 800 mm of annual precipitation on the highest peaks and a significant snow cover from September to May, with temperatures dropping below -20 °C (AEFCS 1996) and bright sunshine even in winter. These climatic conditions have favoured large pine, Holm Oak, *Thuja* and thuriferous juniper forests (HCEFLCD 2017). The aridity of the southern slope of the High Atlas allows only steppe vegetation of sagebrush and esparto grass to grow.

**Anti-Atlas (AA):** This is the pre-Saharan area, which extends north of the Wadi Draa and rises to an average altitude of 2000 m. It is a semi-arid region with Jebel Bani and Jebel Ouarkziz as its main elevations, and is home to numerous oases. The western part of the Anti-Atlas is characterised by the Saharan plateau, with a temperate winter except in the high mountains. On the other hand, in the eastern part of the Anti-Atlas, the greatest arid area is marked by the northward extension of the Saharan landscape and a bioclimate of cool and temperate winters. These bioclimatic stages are characterised by plant communities such as wooded steppes with *Acacia raddiana*,

**Table 3.** Species richness of Diptera families each biogeographical region in Morocco. **Rif**; **AP** – Atlantic Plain; **EM** – Eastern Morocco; **MA** – Middle Atlas; **HA** – High Atlas; **AA** – Anti-Atlas; **SA** – Sahara.

\* No precise localities known.

	<b>Rif</b>	<b>AP</b>	<b>EM</b>	<b>MA</b>	<b>HA</b>	<b>AA</b>	<b>SA</b>
Acroceridae	7	1	0	1	3	0	0
Agromyzidae	7	15	0	10	22	10	0
Anisopodidae *							
Anthomyiidae	4	12	0	13	2	4	1
Anthomyzidae	1	0	0	0	1	0	0
Asilidae	34	27	4	35	25	24	5
Asteiidae	0	3	0	0	1	1	0
Atelestidae	1	0	0	0	0	0	0
Athericidae	0	0	0	1	2	0	0
Aulacigastridae	1	0	0	0	0	0	0
Bibionidae	4	2	0	3	1	2	2
Blephariceridae	1	0	0	0	3	0	0
Bombyliidae	35	80	12	59	48	56	19
Braulidae *							
Calliphoridae	3	8	2	4	4	0	0
Camillidae	1	2	0	0	1	0	0
Canacidae	6	10	0	0	0	6	0
Carnidae	1	0	0	0	0	0	0
Cecidomyiidae	8	27	21	25	20	7	4
Ceratopogonidae	15	43	14	35	33	24	36
Chamaemyiidae	5	5	0	4	8	6	0
Chaoboridae *							
Chironomidae	230	30	7	105	120	14	1
Chloropidae	35	22	0	7	6	25	1
Chyromyidae	6	6	0	0	1	12	1
Clusiidae	1	0	0	0	0	0	0
Coelopidae	1	0	0	0	0	0	0
Conopidae	7	13	0	16	7	9	0
Cryptochetidae	0	0	0	1	0	0	0
Culicidae	32	41	24	30	29	22	11
Diastatidae	0	1	0	0	1	0	0
Dixidae	2	2	0	2	5	0	0
Dolichopodidae	72	28	3	6	18	26	0
Drosophilidae	11	14	0	8	12	5	1
Dryomyzidae	1	0	0	0	0	0	0
Empididae	4	3	0	13	20	1	0
Ephydriidae	47	44	1	60	9	20	1
Fanniidae	4	2	0	2	5	0	0
Helcomyzidae	1	0	0	0	0	0	0
Heleomyzidae	11	3	0	2	2	3	0
Hippoboscidae	0	2	3	4	4	4	1
Hybotidae	20	7	3	8	7	8	0
Keroplastidae	1	0	0	0	0	0	0
Lauxaniidae	23	3	2	1	8	2	0
Limoniidae	43	9	4	5	34	5	0



	Rif	AP	EM	MA	HA	AA	SA
Lonchaeidae	3	3	0	1	1	0	0
Lonchopteridae	0	0	0	1	1	0	0
Micropezidae	1	0	0	0	0	0	0
Milichiidae	2	1	0	0	4	3	1
Muscidae	25	47	13	38	68	20	6
Mycetophilidae	60	3	7	3	0	0	0
Mydidae	0	3	2	1	0	3	1
Mythicomyiidae	2	0	0	0	1	2	1
Nemestrinidae	1	1	1	5	3	0	1
Nycteribiidae	6	5	0	6	0	2	1
Odiniidae	1	0	0	0	0	0	0
Oestridae	0	2	1	1	1	0	1
Opomyzidae	1	1	0	1	2	0	0
Pallopteridae	0	0	0	1	0	0	0
Pediciidae	3	1	0	0	0	0	0
Phoridae	0	2	0	0	0	0	0
Piophilidae	2	1	0	1	1	0	0
Pipunculidae	13	1	0	0	0	0	0
Platypezidae	2	1	0	0	0	0	0
Platystomatidae	0	2	1	1	0	0	0
Polleniidae	1	4	2	5	5	1	1
Psilidae	1	0	0	1	0	0	0
Psychodidae	25	12	12	12	34	9	2
Ptychopteridae *							
Rhagionidae	2	0	0	0	2	0	0
Rhiniidae	2	5	3	5	0	5	4
Rhinophoridae	6	2	0	1	0	0	0
Sarcophagidae	11	19	1	13	8	9	2
Scathophagidae	3	1	0	1	0	0	0
Scatopsidae	10	2	0	0	1	3	0
Scenopinidae	3	4	1	1	0	0	1
Sciaridae	29	12	2	8	45	9	3
Sciomyzidae	8	4	2	11	18	3	0
Sepsidae	3	6	0	4	7	3	0
Simuliidae	32	8	0	19	32	6	0
Sphaeroceridae	42	3	2	10	1	3	3
Stratiomyidae	20	13	5	13	6	1	0
Streblidae	1	1	0	0	0	1	0
Syrphidae	70	49	11	82	64	25	4
Tabanidae	26	27	11	35	21	7	1
Tachinidae	18	27	4	46	43	29	3
Tephritidae	34	13	4	16	13	23	3
Thaumaleidae	0	0	0	0	2	0	0
Therevidae	9	7	2	9	4	5	2
Tipulidae	28	7	0	16	18	2	0
Trichoceridae	7	1	3	1	0	0	0
Ulidiidae	6	2	0	1	4	4	1
Vermileonidae	1	2	1	1	4	0	0
<b>Total species</b>	<b>1126</b>	<b>770</b>	<b>191</b>	<b>831</b>	<b>876</b>	<b>474</b>	<b>126</b>

*Artemisia herba alba* and *Stipa tenuissima*, interspersed with thuriferous juniper (*Juniperus thurifera*) at the top of the slopes (Piqué 1994). The vegetation is also represented by two formations that partially interpenetrate each other: groves of the Argan tree (*Argania spinosa*) and the *Euphorbia* steppe (*Euphorbia echinus*).

**Sahara (SA):** This area in the south of the country consists of a wide arid zone with a typical Saharan bioclimate of high daytime temperatures and very low precipitation. From a geological point of view it is part of the West African Craton and its margins. It is mainly ancient terrain with Precambrian basement rock and Palaeozoic cover (Piqué 1994). This area is represented by a peneplain of very modest altitudes from 200 to 500 m, established on ancient crystalline terrain. Precipitation from July to September is very low, of the order of 100 mm.

The dipteran species richness of each biogeographical region of Morocco is summarised in Table 3, which highlights the great disparity between the different regions and reflects the lack of knowledge about this insect order in some areas of Morocco. The Rif region in the north of the country has the greatest recorded diversity, but this undoubtedly reflects a greater sampling effort in this area, with large parts of the country still very poorly explored for Diptera. The catalogue does not include any data from the southern part of the Moroccan Sahara.

## Sources of data

Data for the present study were gathered from the literature, supplemented by information taken from a number of websites. The cut-off date for inclusion of species published in the literature is 30 June 2021. Taxonomic, nomenclatural, and distributional data for the present catalogue were obtained from:

- studies by various foreign and Moroccan researchers published between 1787 and 2021, including theses, books, catalogues, checklists and notes from the 1997–1998 synthesis studies on Morocco's biodiversity.
- data from websites and organisations such as Global Species, the Global Biodiversity Information Facility, the BioSystematic Database of World Diptera, Systema Dipteriorum, Catalogue of Life, Systema Naturae 2000 and others, or from relevant homepages specific to particular families.
- the collection of Diptera in the National Museum of Morocco (Muséum National d'Histoire Naturelle à l'Institut Scientifique, Université Mohammed V, Rabat).
- collaboration with specialists who communicated reliable identifications from their personal collections or provided data for species deposited in foreign museums.
- published records of specimens in the personal collection of the lead author (PCKK), deposited at Abdelmalek Essaadi University, Tetouan, identified with the assistance of specialists.

Classification

The arrangement of families in this catalogue (Table 4) is mainly based on Pape et al. (2011) and Wiegmann et al. (2011). All families are listed alphabetically within each superfamily. Nomenclature follows the most recent version of Systema Dipterorum (Evenhuis and Pape 2021) and the Polleniidae are listed as a separate family (Gisondi et al. 2020).

**Table 4.** Diptera classification used in the catalogue.

Suborder NEMATOCERA	
Tipuloidea	Limoniidae
	Pediciidae
	Tipulidae
Trichoceridoidea	Trichoceridae
Psychodoidea	Psychodidae
Scatopsoidea	Scatopsidae
	Ptychopteridae
Culicoidea	Chaoboridae
	Culicidae
	Dixidae
Chironomoidea	Ceratopogonidae
	Chironomidae
	Simuliidae
	Thaumaleidae
	Blephariceridae
Bibionoidea	Anisopodidae
	Bibionidae
Sciaroidea	Cecidomyiidae
	Keroplastidae
	Mycetophilidae
	Sciaridae
Suborder BRACHYCERA	
Stratiomyoidea	Stratiomyidae
Tabanoidea	Athericidae
	Rhagionidae
	Tabanidae
	Vermileonidae
Nemestrinoidea	Acroceridae
	Nemestrinidae
Asiloidea	Asilidae
	Bombyliidae
	Mydidae
	Mythicomyiidae
	Scenopinidae
	Therevidae

Empidoidea	Atelestidae
	Empididae
	Dolichopodidae
	Hybotidae
Platypezoidea	Phoridae
	Platypezidae
	Lonchopteridae
Syrphoidea	Pipunculidae
	Syrphidae
Conopoidea	Conopidae
Nerioidea	Micropezidae
Tanypezoidea	Psilidae
Tephritoidea	Lonchaeidae
	Pallopteridae
	Piophilidae
	Platystomatidae
	Tephritidae
	Ulidiidae
Lauxanioidea	Chamaemyiidae
	Lauxaniidae
Sciomyzoidea	Coelopidae
	Dryomyzidae
	Helcomyzidae
	Sciomyzidae
	Sepsidae
Opomyzoidea	Agromyzidae
	Anthomyzidae
	Asteiidae
	Aulacigastridae
	Clusiidae
	Oдиниidae
	Opomyzidae
Carnoidea	Canacidae
	Carnidae
	Chloropidae
	Milichiidae
Sphaeroceroidea	Chyromyidae
	Heleomyzidae
	Sphaeroceridae
Ephydroidea	Braulidae
	Camillidae
	Cryptochetidae
	Diastatidae
	Drosophilidae
	Ephydriidae
Hippoboscoidea	Hippoboscidae
	Nycteribiidae
	Streblidae
Muscoidea	Anthomyiidae
	Fanniidae



Muscoidea	Muscidae
	Scathophagidae
Oestroidea	Calliphoridae
	Oestridae
	Polleniidae
	Rhiniidae
	Rhinophoridae
	Sarcophagidae
	Tachinidae

---

## Arrangement of the catalogue

The catalogue includes all names of taxonomically valid species of the Order Diptera so far known to occur in Morocco. For each family, synonyms and alternative combinations that have been published as records of Moroccan provenance are listed under the currently accepted name.

The transliteration of Moroccan place names in the literature, maps, and sometimes on data labels presented a small problem. Although it would have been preferable to use standard names, this would have meant changing some place names from their original spellings in the literature. Most transliteration used the French language for spelling and Roman letters, but not all. English was sometimes used, and occasionally also Spanish. Readers are therefore advised to take this into account when searching for place names given in the catalogue and in the cited references. Some common examples are “Jebel”, “Jbel”, “Djebel” or “Dj.”, used for “mountain”, or “Kbir” and “Kebir”, for “large” or “great”. The article “the” in Arabic is El or L; it is sometimes separated by a hyphen from its associated noun or joined to it, sometimes capitalised while the noun is not, both are capitalised, or only the noun is. When the article “el” is followed by a noun beginning with a certain consonant, like n, r, s and t, the l is changed to match the noun’s initial, for example “Er-Rifiyine”. In transliteration, Arabic speakers would make this change, whereas non-Arabic speakers may not. In cases where the article is joined to the noun, the resulting versions may appear as being different place names; for example, El Rachidia, Er Rachidia and Errachidia are alternative transliterations of the same place name. In some entries, the French terms “affluent” and “aval affluent” are left as in the original citation, because “tributary” may not be an accurate translation in all instances. For some of the sites, the French term refers to a downstream overflow of water into a side tributary or waterfall, whereas for others it refers to an actual tributary feeding into a main river or stream.

Older authors were imprecise with localities, and many references did not give the coordinates of localities from which species were collected. We could not reliably provide accurate coordinates for each species. Where known, species depositories are included. Individual family checklists may include, at the end, taxonomic notes and

comments on species doubtfully present in the country. New records are indicated with an asterisk (\*) and the relevant data listed at the end of the family section.

## Limitations

One of the major difficulties encountered while compiling the catalogue was the limited ability to check old identifications. In some cases, identifications were accepted as given in the original sources, even when doubtful, as it was usually not possible to re-examine specimens. The inaccessibility of some references was also an obstacle to updating the checklists for some families.

## Collections cited

The following museums and collections house some of the specimens mentioned in this catalogue. The National Museum of Natural History of Morocco is located in the Institut Scientifique, Université Mohammed V, Rabat. However, the Diptera collection housed in that museum is not yet included in any world database such as the GBIF Registry of Scientific Collections, <https://www.gbif.org/grscicoll>, or the Insect and Spider collections of the World Website, <http://hbs.bishopmuseum.org/codens/>.

<b>HNHM</b>	Hungarian Natural History Museum, Budapest, Hungary;
<b>INHS</b>	Illinois Natural History Survey, Urbana, USA;
<b>IRSNB</b>	Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium;
<b>MfN</b>	Museum für Naturkunde, Berlin, Germany;
<b>MHNN</b>	Muséum d'Histoire Naturelle de Neuchâtel, Neuchâtel, Switzerland;
<b>MISR</b>	Museum National d'Histoire Naturelle à l'Institut Scientifique, Université Mohammed V, Rabat, Morocco;
<b>MNCN</b>	Museo Nacional de Ciencias Naturales, Madrid, Spain;
<b>MNHN</b>	Muséum National d'Histoire Naturelle, Paris, France;
<b>NHMD</b>	Natural History Museum of Denmark, Copenhagen, Denmark;
<b>NHMUK</b>	Natural History Museum, London, United Kingdom;
<b>NMWC</b>	National Museum of Wales, Cardiff, United Kingdom;
<b>OUMNH</b>	Oxford University Museum of Natural History, Oxford, United Kingdom;
<b>RMNH</b>	Rijksmuseum voor Natuurlijke Historie, Leiden, The Netherlands;
<b>SMNS</b>	Staatliches Museum für Naturkunde Stuttgart, Stuttgart, Germany;
<b>ZMUM</b>	Zoological Museum of Moscow University, Moscow, Russia;
<b>ZMZ</b>	Zoologisches Museum, Universität Zürich-Irche, Zürich, Switzerland;
<b>ZSM</b>	Zoologische Staatssammlung, Munich, Germany.

The personal collection of Dr Michael von Tschirnhaus has been donated to the ZSM, but is currently on loan to Dr von Tschirnhaus.

## Other abbreviations

<b>HT</b>	Holotype;
<b>NPH</b>	National Park of Al Hoceima;
<b>NPHAO</b>	National Park of Haut Atlas Oriental;
<b>NPI</b>	National Park of Ifrane;
<b>NPT</b>	National Park of Talassemtane;
<b>PCJD</b>	Private Collection of Jos Dils, Belgium;
<b>PCKK</b>	Private Collection of Kawtar Kettani, Morocco;
<b>PNPB</b>	Project of Natural Park of Bouhachem.

## Acknowledgements

The authors are deeply grateful to the reviewers for their constructive comments, which helped to improve the manuscript. Our sincere thanks are expressed to the subject editor, Torsten Dikow, for his significant contribution and support as editor.

We are most grateful to the following specialists who generously contributed in various ways to this catalogue by sharing information and knowledge of their group or by reviewing a family section: Patrick Ashe (Dublin, Ireland)—Chironomidae; Torsten Dikow (Washington, D.C., USA)—Mydidae; the late Amnon Freidberg (Tel Aviv, Israel)—Tephritidae; Kai Heller (Heikendorf, Germany)—Sciaridae; Gail Kampmeier (Champaign, USA)—Therevidae; Valery Korneyev (Kiev, Ukraine)—Tephritidae; Ewa Krzemińska (Kraków, Poland)—Trichoceridae; Allen Norrbom (Washington, D.C., USA)—Tephritidae; Adrian R. Plant (Mahasarakham, Thailand)—Empididae, Hemerodrominae; Bradley J. Sinclair (Ottawa, Canada)—Empididae, Clinocerinae; Jens-Hermann Stuke (Leer, Germany)—Conopidae; Norman Woodley (Hereford, AZ, USA)—Stratiomyidae. Mohamed Mouna and Mohamed Dakki are acknowledged and thanked for their encouragement and inspiration that led the first author to commence this project, as well as for generously donating to her a large bibliography on the subject. Mohamed Mouna was instrumental in ensuring that she had full access to the collections and library and full cooperation from the staff of these departments. He is immensely thanked by the first author for donating to her his library, consisting of many books and publications.

Mohammed Fekhaoui, Abdellatif Bayed, Mohamed-Aziz El Agbani, Mohamed Arahou from the administration of Museum National d'Histoire Naturelle à l'Institut Scientifique, Université Mohammed V, Rabat are warmly thanked for their valuable assistance in providing access to the library and Diptera collections of the museum. Thanks also to Amina Zouida, the librarian at the said institute, for her tireless and precious help in searching for obscure publications, and to Abderrahmane Mataame (responsible for the zoological collections of the museum) for his kind and patient assistance during the first author's frequent visits to the museum. Yassine Fekrani is acknowledged for his kind help producing the maps.

## Suborder NEMATOCERA

### Tipuloidea

#### LIMONIIDAE

K. Kettani, P. Oosterbroek

Number of species: **67**. Expected: 85

Faunistic knowledge of the family in Morocco: moderate

#### Chioneinae

##### ***Baeoura* Alexander, 1924**

*Baeoura ebenina* Starý, 1981

Driauach and Belqat 2015, **Rif**, Oued Tazarine (Mezine village); Dayat near Aïn Afersiw; Driauach and Belqat 2016; Oosterbroek 2020 (CCW: **Rif**)

*Baeoura staryi* Driauach & Belqat, 2015

Driauach and Belqat 2015, **Rif**, Jnane Niche; Driauach and Belqat 2016; Oosterbroek 2020 (CCW: **Rif**)

##### ***Cheilotrichia* Rossi, 1848**

*Cheilotrichia (Empeda) cinerascens* (Meigen, 1804)

Driauach et al. 2013, **Rif**, Ikadjouen; Driauach and Belqat 2016, **Rif**, Oued Ouara, Oued Amsa, Oued Maggou, Aïn Quanquben (Jebel Bou Bessoui), **EM**, Grotte du Chameau (Zegzel, Béni Snassen); Oosterbroek 2020 (CCW: **Rif**; **EM**)

*Cheilotrichia (Empeda) fuscogalterata* (Strobl, 1906)

Driauach and Belqat 2016, **Rif**, Dayat Fifi, tributary of Oued El Fondak, Barrage Ajras, Dayat Mghara, Oued Zarka, Oued Tizekhte; Oosterbroek 2020 (CCW: **Rif**)

*Cheilotrichia (Empeda) minima* (Strobl, 1898)

Driauach and Belqat 2016, **Rif**, Oued Zendoula, Oued Jnane Niche; Oosterbroek 2020 (CCW: **Rif**)

##### ***Ellipteroides* Becker, 1907**

*Ellipteroides (Ellipteroides) lateralis* (Macquart, 1835)

= *Gonomyia lateralis* Macquart, in Pierre 1922a: 22, Dakki 1997: 62

= *Gonomyia cincta* Egger, in Séguy 1941a: 26

Pierre 1922a, **AP**, Dradek (near Rabat); Lackschewitz 1940a, **HA**, Tachdirt (2200–2900 m); Séguy 1941a, **HA**, Tachdirt (Toubkal, 2500 m); Savchenko et al. 1992; Dakki 1997; Starý and Freidberg 2007; Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, Dayat Afrate; Oosterbroek 2020 (CCW: **Rif**)

*Ellipteroides (Protoponomyia) alboscuteatus* (von Roser, 1840)

Lackschewitz 1940a, **HA**; Savchenko et al. 1992; Starý and Oosterbroek 2008; Starý 2009a; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)



*Ellipteroides (Protogonomyia) hutsoni* (Starý, 1971)

Starý 1971, **HA**, Jebel Ayachi; Savchenko et al. 1992, **HA**, Jebel Ayachi; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

***Erioconopa* Starý, 1976***Erioconopa diuturna* (Walker, 1848)

Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, Dayat Jebel Zemzem, Oued Mezine, Aïn Bab Tariouant; Oosterbroek 2020 (CCW: **Rif**)

*Erioconopa symplectoides* (Kuntze, 1914)

= *Dactylolabis symplectoides* Egger, in Pierre 1922a: 23

Pierre 1922a, **HA**, Marrakech; Savchenko et al. 1992; Starý and Oosterbroek 2008, **HA**; Gavryushin pers. comm. 2012, **HA**; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW: **HA**)

***Erioptera* Meigen, 1803***Erioptera (Erioptera) fuscipennis* Meigen, 1818

Pierre 1922a, **AP**, Casablanca (Oued Guerera); Pierre 1922b, **HA**, Savchenko et al. 1992; Dakki 1997; Driauach et al. 2013, **Rif**, Sidi Brahim Ben Arrif (Bab Hachef Aissa); Driauach and Belqat 2016, **Rif**, Aïn El Ma Bared, Oued Amsemlil, Oued Maggou (Bridge), Oued Tkarae, Dayat near Aïn Afersiw, Aïn Afersiw, Oued Abou Bnar, Oued Maggou (Zaouiet El Habtiyne), Dayat Amsemlil, Dayat Aïn Jdioui; Dayat Afrate, Oued Mezine; Oosterbroek 2020 (CCW: **Rif, HA**)

*Erioptera (Erioptera) lutea lutea* Meigen, 1804

Driauach and Belqat 2016, **Rif**, Aïn Boughaba; Oosterbroek 2020 (CCW: **Rif**)

*Erioptera (Erioptera) transmarina* Bergroth, 1889

= *Mesocyphona transmarina* Bergroth, in Pierre 1922a: 22, Pierre 1922b: 148, Dakki 1997: 62

Pierre 1922a, **HA**, Marrakech; Pierre 1922b, **HA**, Tannaout (1000 m), Marrakech; Dakki 1997; Savchenko et al. 1992; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

***Gonomyia* Meigen, 1818***Gonomyia (Gonomyia) abscondita* Lackschewitz, 1935

Driauach and Belqat 2016, **Rif**, maison forestière; Oosterbroek 2020 (CCW: **Rif**)

*Gonomyia (Gonomyia) sicala* Lackschewitz, 1940

Driauach and Belqat 2016, **Rif**, Oued Kbir, Dayat Jebel Zemzem, Aïn Sidi Brahim Ben Arrif, Dayat Tazia, Aïn El Maounzil; Oosterbroek 2020 (CCW: **Rif**)

*Gonomyia (Gonomyia) subtenella* Savchenko, 1972

Starý and Oosterbroek 2008, **HA**, Massif Toubkal, Aghbalou, 43 km S Marrakech (1000 m); Starý 2009a; Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, Oued Jnane Niche, Oued Sidi Yahia Aârab, **EM**, Oued Béni Ouachekradi; Oosterbroek 2020 (CCW: **Rif, EM**)

*Gonomyia* (*Gonomyia*) *tenella* (Meigen, 1818)

Pierre 1924a, **HA**, Asni (1200 m); Séguy 1930a, **HA**, Asni; Savchenko et al. 1992; Dakki 1997; Starý 2009a; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

***Hoplolabis* Osten-Sacken, 1869***Hoplolabis* (*Parilisia*) *obtusiapex* (Savchenko, 1982)

Starý 2006, **HA**, Oasis Meski, **AA**; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

*Hoplolabis* (*Parilisia*) *punctigera* (Lackschewitz, 1940)

Starý 2006, **HA**, Oasis Meski, **AA**; Koçak and Kemal 2010; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

*Hoplolabis* (*Parilisia*) *sororcula* (Lackschewitz, 1940)

Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, Barrage Ajras, Oued Ouringa, Oued El Kanar, Oued Maggou; Oosterbroek 2020 (CCW: **Rif**)

***Idiocera* Dale, 1842***Idiocera* (*Euptilostena*) *jucunda* (Loew, 1873)

= *Gonomyia jucunda* Loew, in Pierre 1924a: 201, Séguy 1930a: 22

Pierre 1924a, **HA**, Asni (1200 m); Séguy 1930a, **HA**, Asni; Savchenko et al. 1992; Dakki 1997; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

*Idiocera* (*Idiocera*) *ampullifera* (Starý, 1979)

Driauach and Belqat 2016, **AA**, Oued Zag; Oosterbroek 2020 (CCW: **AA**)

*Idiocera* (*Idiocera*) *pulchripennis* (Loew, 1856)

= *Gonomyia sexpunctata* Dale, in Pierre 1922b: 148

= *Gonomyia pulchripennis* (Loew), in Dakki 1997: 62

Pierre 1922b, **AP**, Atlantic coast; Ramdani 1981, **AP**, Merja Sidi Boughaba; Savchenko et al. 1992; Dakki 1997; Koçak and Kemal 2010; Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, Oued Jnane Niche, Oued Aârkoub, Aïn Jdioui; Oosterbroek 2020 (CCW)

*Idiocera* (*Idiocera*) *sziladyi* (Lackschewitz, 1940)

Driauach and Belqat 2016, **Rif**, Oued Zarka; Oosterbroek 2020 (CCW: **Rif**)

***Ilisia* Rondani, 1856***Ilisia maculata* (Meigen, 1804)

Driauach and Belqat 2016, **Rif**, Oued Maggou, **EM**, Oued Tafoughalt; Oosterbroek 2020 (CCW: **Rif**; **EM**)

***Molophilus* Curtis, 1833***Molophilus* (*Molophilus*) *ibericus* Starý, 2011

Starý 2011, **HA**; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

*Molophilus* (*Molophilus*) *obscurus* (Meigen, 1818)

Starý and Oosterbroek 2008, **HA**, Massif Toubkal, Oukaïmeden, 2500–2800 m; Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, tributary

of Oued Ouara, tributary of Oued Maggou, Dayat El Ânassar, Dayat Jebel Zemzem, Aïn El Ma Bared, Dayat Rmali, Oued Amsemlil, Aïn Mâaze, Dayat Afrate, Dayat Lemtahane; Oosterbroek 2020 (CCW: **Rif**)

*Molophilus (Molophilus) propinquus propinquus* (Egger, 1863)

Savchenko et al. 1992; Starý and Oosterbroek 2008, **HA**, Oukaimeden (2500–2800 m); Starý 2011; Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, Oued Ouara, Oued Farda, tributary of Oued Taida, Oued Maggou; Oosterbroek 2020 (CCW: **Rif**)

*Molophilus (Molophilus) testaceus* Lackschewitz, 1940

Driauach and Belqat 2016, **Rif**, Dayat Amsemlil, Dayat Lemtahane, Marj El kheyl, Oued Tkarae, Dayat near Aïn Afersiw, Dayat Mezine, Dayat Tazia, Dayat Rmali, Dayat Amsemlil, Dayat near Aïn Afersiw; Oosterbroek 2020 (CCW: **Rif**)

### ***Symplecta* Meigen, 1830**

*Symplecta (Symplecta) grata* Loew, 1873

Ebejer et al. 2020, **Rif**, Aïn Jdioui (Tahaddart, 8 m)

*Symplecta (Symplecta) hybrida* (Meigen, 1804)

Lackschewitz 1940a, **HA**, Goundafa (1200 m); Séguy 1941a, **HA**, Taroudant; Savchenko et al. 1992; Oosterbroek et al. 2007; Koçak and Kemal 2010; Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, Barrage Ajras, Oued El Kanar, Oued Aârkoub, Oued Jnane Niche, **MA**, Barrage Allal El Fassi; Oosterbroek 2020 (CCW: **Rif**; **MA**)

*Symplecta (Trimicra) pilipes* (Fabricius, 1787)

= *Trimicra pilipes* Fabricius, in Pierre 1922a: 23

= *Trimicra andalusiaca* Strobl, in Pierre 1922b: 149

= *Trimicra hirsutipes* Macquart, in Séguy 1930a: 22

Pierre 1922a, **AP**, Dradek (near Rabat), **HA**, Marrakech; Pierre 1922b, **MA**, Volubilis, **HA**, Oued Tensift; Séguy 1930a; Séguy 1941d, **AA**, Taroudant; Savchenko et al. 1992; Dakki 1997; Pârvu and Zaharia 2007; Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, tributary of Oued Hachef, Oued Aârkob, Oued El Kanar, Oued Mezine, **AP**, Aïn Chouk (Larache); Oosterbroek 2020 (CCW: **Rif**)

*Tasiocera (Dasymolophilus) murina* (Meigen, 1818)

Driauach and Belqat 2016, **Rif**, Oued Farda, Oued Amsemlil; Oosterbroek 2020 (CCW: **Rif**)

## Dactylolabinae

### ***Dactylolabis* Osten-Sacken, 1860**

*Dactylolabis (Dactylolabis) symplectoidea* Egger, 1863

Pierre 1922a, **AP**, Around Casablanca (coastal meseta); Savchenko et al. 1992; Dakki 1997; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

## Limnophilinae

***Austrolimnophila* Alexander, 1920**

*Austrolimnophila* (*Austrolimnophila*) *latistyla* Starý, 1977

Driauach and Belqat 2016, **Rif**, Oued Maggou; Oosterbroek 2020 (CCW: **Rif**)

***Dicranophragma* Osten-Sacken, 1860**

*Dicranophragma* (*Brachylimnophila*) *adjunctum* (Walker, 1848)

= *Neolimnomyia adjuncta* (Walker, 1848), in Pârvu et al. 2006: 273

Pârvu et al. 2006, **AP**, Merja Zerga; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

*Dicranophragma* (*Brachylimnophila*) *nemorale* (Meigen, 1818)

Lackschewitz 1940b, **HA**, Tachdirt (2200–2700 m); Savchenko et al. 1992; Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, Aïn Sidi Brahim Ben Arrif, tributary Oued Ouara, Oued Maggou; Oosterbroek 2020 (CCW: **Rif**)

***Eloeophila* Rondani, 1856**

*Eloeophila maroccana* Starý, 2009

Starý 2009b, **HA**, Okaïmeden (2500–2800 m); Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

***Euphylidorea* Alexander, 1972**

*Euphylidorea* (*Euphylidorea*) *crocotula* (Séguy, 1941)

= *Phylidorea crocotula* (Séguy), in Séguy 1941a: 28

Séguy 1941a, **HA**, Tachdirt (Toubkal, 2500 m); Savchenko et al. 1992, **HA**, Tachdirt (Toubkal); Starý and Oosterbroek 2008, **HA**, Oukaïmeden (2500 m–2800 m), Imlil (1400 m); Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, Aïn Bab Tariouant; Oosterbroek 2020 (CCW: **Rif**; **HA**)

*Euphylidorea* (*Euphylidorea*) *dispar* (Meigen, 1818)

Driauach and Belqat 2016, **Rif**, Oued at 15 km from Fifi; Oosterbroek 2020 (CCW: **Rif**)

*Euphylidorea* (*Euphylidorea*) *lineola* (Meigen, 1804)

Lackschewitz 1940b, **HA**; Savchenko et al. 1992; Starý and Freidberg 2007; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

***Hexatoma* Latreille, 1809**

*Hexatoma* (*Hexatoma*) *bicolor* (Meigen, 1818)

Driauach and Belqat 2016, **Rif**, Oued at 15 km from Fifi, tributary of Oued Ouara, Oued Madissouka, Oued Maggou, Aïn Quanquben (Jebel Bou Besoui), Oued Tkarae, Oued Tamerte; Oosterbroek 2020 (CCW: **Rif**)

*Hexatoma* (*Hexatoma*) *gaedii* (Meigen, 1830)

Lackschewitz 1940b, **HA**, Tachdirt (2200 m–2700 m); Savchenko et al. 1992; Starý and Freidberg 2007; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW: **HA**)

***Pseudolimnophila* Alexander, 1919***Pseudolimnophila* (*Pseudolimnophila*) *sepium* (Verrall, 1886)

Driauach et al. 2013, **Rif**, Guelta Tazia; Driauach and Belqat 2016, **Rif**, Dayat Tazia, Aïn Sidi Brahim Ben Arrif, Aïn Afersiw, Oued Maggou, Dayat Tazia, Oued Taida, Aïn Sidi Brahim Ben Arrif; Oosterbroek 2020 (CCW: **Rif**)

## Limoniinae

***Dicranomyia* Stephens, 1829***Dicranomyia* (*Dicranomyia*) *affinis* (Schummel, 1829)

Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, Oued Amsemlil, Dayat Lemtahane, Oued Tkarae, Marj El Kheyl, Aïn Sidi Brahim Ben Arrif, Dayat Tazia, Aïn El Maounzil, Aïn El Malâab, Dayat near Aïn Afersiw, Aïn Bab Tariouant; Oosterbroek 2020 (CCW: **Rif**)

*Dicranomyia* (*Dicranomyia*) *chorea* (Meigen, 1818)

Pierre 1922b, **HA**, Haute Réghaya, Tannaout, Asni (1000 m–1250 m); Savchenko et al. 1992; Dakki 1997; Starý and Freidberg 2007; Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, Oued Farda, Oued Kelâa, Aïn Ras el Ma, Oued Jnane Niche, Cascade Chrafate, maison forestière, Oued El Kanar, tributary of Oued Zarka, **HA**, Oued Sidi Fares (National Park of Toubkal); Oosterbroek 2020 (CCW: **Rif**; **HA**)

*Dicranomyia* (*Dicranomyia*) *didyma* (Meigen, 1804)

Pierre 1922b, **HA**, Haute Réghaya (2000 m); Dakki 1997; Savchenko et al. 1992; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW: **HA**)

*Dicranomyia* (*Dicranomyia*) *goritiensis* (Mik, 1864)

Lackschewitz 1940b; Vaillant 1956b; Savchenko et al. 1992; Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, Oued Maggou, Cascade Chrafate, Oued El Kouba, Cascade Zarka, Âounsar Aheramen, maison forestière; Oosterbroek 2020 (CCW: **Rif**)

*Dicranomyia* (*Dicranomyia*) *longicollis* (Macquart, 1846)

= *Telecephala longicollis* (Macquart), in Pierre 1922a: 21, Pierre 1922b: 148, Séguy 1930a: 22

Séguy 1930a, **AP**, Dradek (near Rabat); Dakki 1997; Pierre 1922a, **AP**, Dradek, **HA**, Marrakech; Pierre 1922b, **AP**, Rabat; Savchenko et al. 1992; Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, Oued Aârate, Barrage Moulay Bouchta, Oued Kbir, **MA**, Barrage Allal El Fassi; Oosterbroek 2020 (CCW)

*Dicranomyia* (*Dicranomyia*) *mitis* (Meigen, 1830)

= *Dicranomyia hygropetrica* Vaillant, in Vaillant 1956b: 42

Vaillant 1956b, **HA**, Asif Tessaout (M'Goum), Izourar, Tahanaout, Tamesrit, Imi-N'Ifri, Aguelmous, Sidi Chamarouch, Lac Tamhda (Anremer), Oukaime-

den; Savchenko et al. 1992; Pârvu et al. 2006, **AA**, near Agadir, Souss plain to High Atlas occidental; Pârvu and Zaharia 2007; Gavryushin pers. comm. 2012, **HA**; Driauach et al. 2013, **Rif**, Tazia, Tisgris; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

*Dicranomyia (Dicranomyia) modesta* (Meigen, 1818)

Driauach and Belqat 2016, **Rif**, Oued Farda, Oued El Kanar, Oued Jnane Niche, Oued Sidi Yahia Aârab; Oosterbroek 2020 (CCW: **Rif**)

*Dicranomyia (Dicranomyia) novemmaculata* (Strobl, 1906)

Driauach and Belqat 2016, **Rif**, tributary of Oued el Fondak, Oued Aârate; Oosterbroek 2020 (CCW: **Rif**)

*Dicranomyia (Dicranomyia) ventralis* (Schummel, 1829)

Driauach and Belqat 2016, **Rif**, Lake Badriouen; Oosterbroek 2020 (CCW: **Rif**)

*Dicranomyia (Glochina) sericata* (Meigen, 1830)

Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

*Dicranomyia (Melanolimonina) hamata* Becker, 1908

Driauach and Belqat 2016, **Rif**, tributary of Oued Kbir, Oued Aârate, Aïn Sidi Brahim Ben Arrif, Dayat Tazia; Oosterbroek 2020 (CCW: **Rif**)

*Dicranomyia (Melanolimonina) morio* (Fabricius, 1787)

= *Limonia pauliani* Séguy, in Séguy 1941a: 26

Séguy 1941a, **HA**, Tachdirt (Toubkal, 2500 m); Savchenko et al. 1992, **HA**, Tachdirt (Toubkal); Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, Seguia Lemtahane, Dayat near Aïn Afersiw, Dayat Jebel Zemzem; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

*Dicranomyia majuscula* Pierre, 1924<sup>1</sup>

Pierre 1924a, **HA**, Haut Imminen (2400 m); Séguy 1930a, **HA**, Haut Imminen; Dakki 1997; Savchenko et al. 1992, **HA**, Haut Imminen; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

***Dicranoptycha* Osten-Sacken, 1860**

*Dicranoptycha fuscescens* (Schummel, 1829)

Eiroa 2000, **Rif**; Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, Oued Mlilah, Oued Zendoula, **AP**, Oued Loukous; Oosterbroek 2020 (CCW)

***Geranomyia* Haliday, 1833**

*Geranomyia caloptera* (Mik, 1867)

Driauach et al. 2013, **HA**, Setti Fatma; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

*Geranomyia obscura* Strobl, 1900

Vaillant 1956b, **HA**, Lac Tamhda (Anremmer), Oukaïmeden, Izourar, Sidi Chamarouch, Tamesrit; Savchenko et al. 1992; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW: **HA**)

1 *Dicranomyia majuscula* Pierre, is a doubtful species of which the identity is not known. There is only one record, from Pierre 1924a, all other citations come from this record.

***Helius* Lepeletier & Serville, 1828***Helius* (*Helius*) *hispanicus* Lackschewitz, 1928

Starý and Oosterbroek 2008, **HA**, Massif Toubkal, Imlil (17 km S Asni, 1700–1900 m); Driauach et al. 2013; Driauach and Belqat 2016, **Rif**, Oued Amsem-lil; Oosterbroek 2020 (CCW: **Rif**)

*Helius* (*Helius*) *pallirostris* Edwards, 1921

Driauach and Belqat 2016, **AP**, Aïn Chouk (Larache); Oosterbroek 2020 (CCW: **Rif**)

***Limonia* Meigen, 1803***Limonia flavipes* (Fabricius, 1787)

Pierre 1922b, **HA**, Haute Réghaya, Asni (1250 m); Savchenko et al. 1992; Dakki 1997; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

*Limonia hercegovinae* (Strobl, 1898)

Starý and Oosterbroek 2008, **MA**, Ifrane (1700 m), **HA**; Gavryushin pers. comm. 2012, **HA**; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW: **HA**)

*Limonia macrostigma* (Schummel, 1829)

Starý and Oosterbroek 2008, **HA**, 5 km from Oukaimeden (2350 m); Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

*Limonia nubeculosa* Meigen, 1804

Pierre 1922b, **HA**, Haute Réghaya, Asni (1250 m); Savchenko et al. 1992; Dakki 1997; Gavryushin pers. comm. 2012, **HA**; Driauach and Belqat 2016, **Rif**, tributary of Oued El Fondak, Aïn Ras el Ma, Aïn Boughaba, Âounsar Aheramen, Aïn Takhninjoute, maison forestière, Oued Madissouka, Aïn Quanquben (Jebel Bou Bessoui), **EM**, Oued Azila; Oosterbroek 2020 (CCW: **Rif**; **HA**)

*Limonia phragmitidis* (Schränk, 1781)

Starý and Oosterbroek 2008, **MA**, Ifrane (1700 m); Driauach and Belqat 2016, **Rif**, Aïn Quanquben (Jebel Bou Bessoui); Oosterbroek 2020 (CCW)

**PEDICIIDAE**

K. Kettani, P. Oosterbroek

Number of species: **6**. Expected: 10

Faunistic knowledge of the family in Morocco: moderate

**Pediciinae*****Dicranota* Zetterstedt, 1838***Dicranota* (*Dicranota*) *bimaculata* (Schummel, 1829)

Pierre 1922b, **HA**, Haute Réghaya (1800 m); Savchenko et al. 1992 (? Morocco); Dakki 1997; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)



*Dicranota* (*Dicranota*) *irregularis* Pierre, 1921

Pierre 1922b, **HA**, Haute Réghaya (1800 m); Savchenko et al. 1992, **HA**, Cirque d'Arround (Haute Réghaya); Dakki 1997; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

*Dicranota* (*Ludicia*) *claripennis* (Verrall, 1888)

Driauach and Belqat 2016, **Rif**, Oued Amsemlil, maison forestière; Oosterbroek 2020 (CCW)

*Dicranota* (*Paradicranota*) *candelisequa* Starý, 1981

Pârvu et al. 2006, **AP**, Merja Zerga; Driauach et al. 2013; Driauach and Belqat 2016; Oosterbroek 2020 (CCW)

*Dicranota* (*Paradicranota*) *landrocki* Czižek, 1931

Driauach et al. 2013, **Rif**, Fifi (1252 m); Driauach and Belqat 2016, **Rif**, Oued Ouara, Oued Taida, Aïn Sidi Brahim Ben Arrif, Âounsar Aheramen, Oued Tizekhte, Oued Mezine, maison forestière, Aïn Bab Tariouant, **HA**, Imlil (Assif Haouz); Oosterbroek 2020 (CCW)

***Tricyphona* Zetterstedt, 1838***Tricyphona* (*Tricyphona*) *immaculata* (Meigen, 1804)

Driauach and Belqat 2016, **Rif**, maison forestière, Dayat Lemtahane; Oosterbroek 2020 (CCW)

**TIPULIDAE**

K. Kettani, P. Oosterbroek, H. de Jong

Number of species: **39**. Expected: 42

Faunistic knowledge of the family in Morocco: moderate

## Dolichopezinae

***Dolichopeza* Curtis, 1825***Dolichopeza* (*Dolichopeza*) *hispanica* Mannheims, 1951

Theowald and Oosterbroek 1980, **HA**, Aghbalou, Oukaimeden, Imlil, Tadmant; Oosterbroek and Theowald 1992; Oosterbroek and Lantsov 2011, **HA**, Oukaimeden (2300 m), Aghbalou (Massif Toubkal), 43 km S Marrakech (1000 m), Imlil (17 km S Asni, 1700–1900 m), Tadmant (17 km E Asni); Adghir et al. 2018, **Rif**, Kitane, Aïn Ras el Ma (Chefchaouen); Oosterbroek 2020 (CCW)

## Tipulinae

***Nephrotoma* Meigen, 1803***Nephrotoma* *alluaudi* (Pierre, 1922)

= *Pachyrhina lunulicornis* Schummel, in Pierre 1922a: 24

= *Pachyrhina alluaudi* Pierre, in Pierre 1922b: 150, Dakki 1997: 62

= *Pales alluaudi* (Pierre), in Mannheims 1951: 47

Pierre 1922b, **HA**, Tannaout (1000 m); Mannheims 1951, **Rif**, Beni Seddat, **AP**, Lagune Guedira; **HA**, Taddert north of Marrakech, Goundafa (1200 m); **AA**, Llano Amarillo, Tlata Reisana; Oosterbroek 1979b, **Rif**, **HA**, Imlil (1400 m), Tizi-n'Tichka (2200 m); Theowald and Oosterbroek 1980, **AP**, Rabat, Guedira lagoon, **MA**, Immouzer, Ifrane, Timahdit, Aghbalou, Tizi-n'Zou, **HA**, Marrakech, Goundafa, Taddert, Dayat, Tizi-n'Test, Tizi-n'Tichka, Asni, Imlil, Oukaïmeden, Setti Fatma, Tinmel, Acif Tifni, **AA**, Taroudant, Mikdana, Sidi Said bou Merdoul, Tlata Reisana, Llano Amarillo; Eiroa 1990, **MA**, Azrou, Ajabo; Oosterbroek and Theowald 1992, **HA**, Tannaout; Dakki 1997; Mouna 1998; Adghir et al. 2018, **Rif**, Ras el Ma (Chefchaouen), Oued Laou, Dardara, Douar Mouarâa, Oued Zandoula, Laghmari-Rmal, Douar Louamera, Douar Laheyayda, Oued Jnane Niche, Cabo Negro, Oued Beni Said, Oued El Kanar, Oued Amsemlil; Oosterbroek 2020 (CCW) – MISR (**HA**), MHNV, MNCNM, MAKB

*Nephrotoma appendiculata pertenua* Oosterbroek, 1978

Oosterbroek 1978, **Rif**, 9 km SW Chefchaouen; Theowald and Oosterbroek 1980, **Rif**, Dardara, **MA**, Fès, Immouzer, Khemisset; Oosterbroek and Theowald 1992; de Jong 1993, 1998, **Rif**; Adghir et al. 2018, **Rif**, Oued Ametrasse, Dayat Aïn Jdioui, Barrage Moulay Bouchta, Oued Sahil, Dayat Jebel Zemzem, Aïn Sidi Brahim Ben Arrif, Oued Nakhla, Oued Tizekhte, Lot Hemmadi, Douar Ayacha, Douar Louamera, Dayat Mezine, Aïn El Malâab, Aïn Takhninjoute, Dayat Tazia, Oued Taida, maison forestière Tazia, Tourbière Amesmlil, Oued El Hamma, Oued Kbir, Jebel Lakraâ; Oosterbroek 2020 (CCW)

*Nephrotoma astigma* Pierre, 1925

Theowald and Oosterbroek 1980, **Rif**, Dardara, **MA**, Taza; Adghir et al. 2018, **Rif**, Oued Tabandout, Etang Maggou, Aïn El Malâab, Douar Remla; Oosterbroek 2020 (CCW)

*Nephrotoma fontana* Oosterbroek, 1978

de Jong 1998, **Rif**; Adghir et al. 2018, **Rif**, Ketama, maison forestière Tazia, Dayat Tazia; Oosterbroek 2020 (CCW)

*Nephrotoma guestfalica vaillanti* de Jong, Adghir & Bosch, 2021

de Jong et al. 2021, **Rif**, Ras el Ma (Chefchaouen, 500 m), Fomento, Oued Laou (6 km north-west of Chefchaouen, 200 m), Jebel Tissouka (3 km south of Chefchaouen, 500 m; 3 km south of Chefchaouen, 700 m; 4 km south-east of Chefchaouen, 700–800 m; 5 km southeast of Chefchaouen, 700–900 m; 5 km south of Chefchaouen, 900–1000 m), Bab Taza (25 km south-east of Chefchaouen, 750–800 m), Dardara (10 km south of Chefchaouen, 300 m), Oued Martil, Nakhla, Âounsar Aheramen, Boumerouil, Oued Maggou, Oued Maggou (Aïn Ras el Ma), Douar Kitane, Oued Sidi Yahia Aârab, Oued Tamerte, Oued Zandoula, Oued El Hamma, Lot Hemmadi, Oued Tamerte, Oued Sidi Mohamed Saâda, Oued El Koub, Douar Iholebatine, Dayat Tazia, Belouazen, Oued Lemtahane, Oued Siflaou, Oued Amsemlil, **AP**, Oued Loukous, Aïn

- el-Aouda, **MA**, Ifrane (road to Mischliffen, 1680 m), N.S. and W of Ifrane (1400–1800 m), Khemisset, Azrou, Oum-er-Rbia, **HA**, M'semrir (bord de l'Oued), Rich, Haute Rhégaya (identified by Mannheims in 1951 as *surcoufi*)
- Nephrotoma luteata* (Meigen, 1818)  
Oosterbroek 1979a, **Rif**, Targuist, Chefchaouen, **HA**, Kasba Taguendaft, near Oukaïmeden; Theowald and Oosterbroek 1980, **Rif**, Targuist, Chefchaouen, **HA**, Kasba Taguendaft, near Oukaïmeden; Oosterbroek and Theowald 1992; Pârvu et al. 2006, **AP**, Merja Zerga; Adghir et al. 2018, **Rif**, Oued Laou, Dardara, Oued Nakhla; Oosterbroek 2020 (CCW)
- Nephrotoma subanalis* (Mannheims, 1951)  
= ? *Pachyrhina analis* Schummel, in Pierre 1922a: 24, Pierre 1922b: 150  
= *Pales subanalis* Mannheims, in Mannheims 1951: 56  
Mannheims 1951, **HA**, Tachdirt (2200–2900 m); Vaillant 1956b, **HA**, Oukaïmeden (2250 m); Oosterbroek 1979c, **HA**, Tachdirt (2200–2900 m); Theowald and Oosterbroek 1980, **HA**, Tachdirt, Oukaïmeden, M'Goum, Tadmant, Imlil, Tizi-N'Tichka; Oosterbroek and Theowald 1992, **HA**, Tachdirt; Oosterbroek 2020 (CCW)
- Nephrotoma submaculosa* Edwards, 1928  
Oosterbroek 1982, **Rif**, Ketama, Dardara, **MA**, Azrou; Oosterbroek and Theowald 1992; de Jong 1998, **Rif**, **Atlas**; Oosterbroek 2011; Adghir et al. 2018, **Rif**, Jebel Dahedouh, Ketama, Aïn Sidi Brahim Ben Arrif, Oued Taida, tributary of Oued Ouara, Sidi Chouiref, Dayat Tazia; Oosterbroek 2020 (CCW)
- Nephrotoma sullingtonensis* Edwards, 1938  
Oosterbroek 1978; Theowald and Oosterbroek 1980, **Rif**, Bab Berred; Oosterbroek 1982 **Rif**, Bab Berred; de Jong 1993, 1998, **Rif**; Oosterbroek and Theowald 1992; Adghir et al. 2018, **Rif**, 4 km SE Ketama, Barrage Moulay Bouchta, Oued Aârate, Aïn Takhninjoute, Oued Jbara, Aïn El Malâab, Aïn El Ma Bared, Oued Lemtahane, maison forestière Tazia, Oued Taida, Dayat Tazia; Oosterbroek 2020 (CCW)
- Tipula Linnaeus, 1758**
- Tipula (Acutipula) anormalipennis* Pierre, 1924  
Pierre 1924b, **HA**, Haut Imminen; Séguy 1930a, **HA**, Haut Imminen; Séguy 1941a, **HA**, Tachdirt (2500 m), Haut Imminen; Mannheims 1952, **HA**, Tachdirt (2500 m), Imminen (2400–2500 m), Arround (1950 m); Vaillant 1956b, **HA**, Lake of Tamhda (Anremer, 2900 m); Theowald and Oosterbroek 1980, **HA**, Anremer, Haut-Imminen, Tachdirt, Arround, Oukaïmeden; Vermoolen 1983, **HA**, Haut Imminen, Oukaïmeden (2500–2800 m), Arround (1950 m), Tachdirt (2500 m); Oosterbroek and Theowald 1992; de Jong 1994a, **HA**; de Jong 1998, **HA**; Dakki 1997; Oosterbroek 2020 (CCW)
- Tipula (Acutipula) repentina* Mannheims, 1952  
= *Tipula maxima* Poda, in Séguy 1941a: 26  
Séguy 1941a, **HA**, Tachdirt (2500 m); Mannheims 1952, **HA**, Tachdirt (2200–2700 m); Vaillant 1956b, **HA**, Lac Tamhda (Anremer, 2900), M'Goum

(2500 m); Theowald and Oosterbroek 1980, **HA**, Anremmer, M'Goum, Tachdirt, Tizi-N'Tichka, Asni, Oukaïmeden, Setti Fatma, Imlil, Tadmant; Vermoolen 1983, **MA**, Ifrane, **HA**, Androment, M'Goum, Tadmant, Tizi-N'Test, Setti Fatma, Oukaïmeden, Tizi-N'Tichka; Oosterbroek and Theowald 1992, **HA**, Tachdirt; de Jong 1994a, **MA**, **HA**; de Jong 1998, **HA**; Dakki 1997; Oosterbroek 2020 (CCW)

*Tipula (Acutipula) rifensis* Theowald & Oosterbroek, 1980

Theowald and Oosterbroek 1980, **Rif**, Targuist; Vermoolen 1983, **Rif**, Targuist, Tidiguin (90 km E. of Ouezzane, 2350 m); Oosterbroek and Theowald 1992, **Rif**; de Jong 1994a, 1998, **Rif**; Adghir et al. 2018; Oosterbroek 2020 (CCW)

*Tipula (Emodotipula) leo* Dufour, 1991

= *Tipula (Emodotipula) obscuriventris* Strobl<sup>2</sup>, in Oosterbroek and Theowald 1992: 99 Oosterbroek and Theowald 1992 (?); Dufour 2003, **Rif**; Adghir et al. 2018, **Rif**, Jebel Tissouka; Oosterbroek 2020 (CCW)

*Tipula (Lunatipula) bivittata* Pierre, 1922

Pierre 1922a, **AP**, Maâmora between Kénitra and Oued Beth, Dradek (near Rabat); Pierre 1922b, **AP**, Rabat; Mannheims 1968; Theowald and Oosterbroek 1980, **AP**, forest of Maâmora, Dradek; Oosterbroek and Theowald 1992, **AP**, forest of Maâmora, Dradek; Dakki 1997; Oosterbroek 2020 (CCW) – MISR (**AP**, Kénitra, Dradek)

*Tipula (Lunatipula) cinereicolor* Pierre, 1924

Pierre 1924b, **HA**, Haut Imminen; Séguy 1930a, **HA**, Tachdirt (3100–3200 m); Theowald 1973, **HA**, Haut Imminen (2400 m); Theowald and Oosterbroek 1980, **MA**, Ifrane, **HA**, Oukaïmeden, Tachdirt, Haut-Imminen; Eiroa 1990, **MA**, Ajabo; Oosterbroek and Theowald 1992, **HA**, Imminen; Dakki 1997; Oosterbroek 2020 (CCW)

*Tipula (Lunatipula) cornicula* Pierre, 1922

Pierre 1922b, **HA**, Arround (2000 m); Séguy 1930a, **HA**, Tachdirt (3100–3200 m); Theowald 1973, **HA**, Cirque d'Arround (2000 m), Tachdirt (2200–2700 m), Goundafa (1200 m); Theowald and Oosterbroek 1980, **HA**, Oukaïmeden, Tachdirt, Goundafa; Oosterbroek and Theowald 1992, **HA**, Tachdirt; Dakki 1997; Oosterbroek 2020 (CCW) – MISR (**HA**)

*Tipula (Lunatipula) fabiola* Mannheims, 1968

Theowald and Oosterbroek 1980, **Rif**, Bab Berred, Ras El Ma (Chefchaouen), **MA**, Jebel Abad, Ifrane; Oosterbroek and Theowald 1992; Adghir et al. 2018; Oosterbroek 2020 (CCW)

---

2 *Tipula (Emodotipula) obscuriventris* is widespread in the western Palearctic, but reaches its southwestern limits in the the Spanish Pyrenees. Therefore, it is very unlikely that *obscuriventris* actually occurs in Morocco, disregarding the references of Oosterbroek and Theowald (1992) and CCW 2020 (which provide Morocco with a question mark for *obscuriventris*). Thus far, the only positively identified *Emodotipula* species from Morocco and the Rif region for which evidence in the form of specimens is available is *T. leo*.

*Tipula (Lunatipula) hermes* Theischinger, 1977

Theischinger 1977, **Rif**, north of Ouezzane; Theowald 1980; Theowald and Oosterbroek 1980, **Rif**, north of Ouezzane; Oosterbroek and Theowald 1992, **Rif**, Ouezzane; Adghir et al. 2018, **Rif**, 4 km SE Ketama, Oued Ametrasse, Aïn El Ma Bared; Oosterbroek 2020 (CCW)

*Tipula (Lunatipula) iberica iberica* Mannheims, 1963

= *Tipula lunata* Linnaeus, in Pierre 1922b: 149, Séguy 1930a: 23

Pierre 1922b, **HA**, Haute Réghaya, Tannaout (1000 m); Séguy 1930a, **HA**, Haut Imminen; Mannheims 1963, **MA**; Theowald and Oosterbroek 1980, **Rif**, Bab Berred, **MA**, Ifrane, Taounate; Eiroa 1990, **MA**, Ifrane; Oosterbroek and Theowald 1992; Oosterbroek 2009; Adghir et al. 2018, **Rif**, Ketama; Oosterbroek 2020 (CCW) – MISR (**HA**)

*Tipula (Lunatipula) iberica spinula* Theischinger, 1980

Theischinger 1980, **HA**, Oukaïmeden (1300–2800 m); Theowald and Oosterbroek 1980, **HA**, Oukaïmeden; Oosterbroek and Theowald 1992, **HA**, Oukaïmeden; Oosterbroek 2020 (CCW)

*Tipula (Lunatipula) peliostigma peliostigma* Schummel, 1833

Eiroa 1990, **MA**, Azrou; Mouna 1997; Oosterbroek 2020 (CCW)

*Tipula (Lunatipula) pjotri* de Jong & Adghir, 2018

Adghir et al. 2018, **Rif**, Jebel El Kelâa (Talassemthane, 1340 m)

*Tipula (Lunatipula) pseudocinerascens* Strobl, 1906

Adghir et al. 2018, **Rif**, Stehat, Oued Taida, Perdicaris Park, Dayat Tazia

*Tipula (Lunatipula) rocina* Theischinger, 1979

Theowald and Oosterbroek 1980, **Rif**, Tétouan; Oosterbroek and Theowald 1992; Oosterbroek 2009; Adghir et al. 2018; Oosterbroek 2020 (CCW)

*Tipula (Lunatipula) selenaria* Mannheims, 1967

Mannheims 1967, **MA**, Jebel Tazzeka (1500–1989 m), **HA**, Goundafa (1200 m); Theowald and Oosterbroek 1980, **MA**, Tazzeka, **HA**, Foug Keneg, Goundafa, Oukaïmeden; Eiroa 1990, **MA**, Ajabo; Oosterbroek and Theowald 1992, **HA**, Goundafa; de Jong 1995, **MA**, **HA**, Oukaïmeden; Oosterbroek 2020 (CCW)

*Tipula (Lunatipula) stimulosa* Mannheims, 1973

Adghir et al. 2018, **Rif**, Jebel El Kelâa (Talassemthane, 1340 m)

*Tipula (Lunatipula) subfalcata* Mannheims, 1967

de Jong 1995, 1998, **Rif**; Adghir et al. 2018, **Rif**, Jebel Tissouka, Oued Tamerte, Oued El Koub; Oosterbroek 2020 (CCW)

*Tipula (Lunatipula) subpustulata* Mannheims, 1963

= *Tipula pustulata* Pierre, in Pierre 1922b: 150

Pierre 1922b, **AP**, Mogador; Vaillant 1956b, **HA**, M'Goun (2500 m); Mannheims 1963, **AP**, Aïn el Aouda, **MA**, Jebel Tazzeka (1600–1989 m), **HA**, Goundafa (1200 m), Tachdirt (2200–2900 m), **AA**, Lac Goulmima; Theowald 1972; Theowald and Oosterbroek 1980, **AP**, Aïn el Aouda, **MA**, Jebel Tazzeka, **HA**, M'Goun, Goundafa, Tachdirt, Oukaïmeden, Imlil; Eiroa 1990, **MA**, Ajabo; Oosterbroek and Theowald 1992, **HA**, Goundafa; Dakki 1997;

- Adghir et al. 2018, **Rif**, 4 km SE Ketama, Aïn El Ma Bared; Oosterbroek 2020 (CCW) – MISR (**AP**, Mogador)
- Tipula* (*Lunatipula*) *tazzekai* Theowald, 1973  
Theowald 1973, **MA**, Jebel Tazzeka (1600–1989 m); Theowald and Oosterbroek 1980, **MA**, Jebel Tazzeka; Eiroa 1990, **MA**, Jebel Hebri; Oosterbroek and Theowald 1992, **MA**, Jebel Tazzeka; Oosterbroek 2020 (CCW)
- Tipula* (*Savtshenkia*) *atlas* Pierre, 1924  
Pierre 1924b, **HA**, Tachdirt (3100–3250 m); Séguy 1930a, **HA**, Tachdirt (3100–3200 m); Vaillant 1956b, **HA**, Cascade Siroua (3000 m), M’Goun (2500 m), Toubkal (3350 m), Lake of Tamhda (Anremar, 2900 m); Mannheims 1964, **HA**; Theowald 1973, **HA**; Theowald 1980, **HA**; Theowald and Oosterbroek 1980, **HA**, Toubkal, Sources de Tessaouts, M’Goum, Siroua, Anremar, Tachdirt, Oukaïmeden, Tizi-N’Tichka, Tadmant; Eiroa 1990, **MA**, Oum-Er-Rbia; Oosterbroek and Theowald 1992, **HA**, Tachdirt; de Jong 1994b; de Jong 1998, **Atlas**; Dakki 1997; Oosterbroek 2020 (CCW)
- Tipula* (*Savtshenkia*) *breviantennata* Lackschewitz, 1933  
de Jong 1998, **Rif**; Adghir et al. 2018, **Rif**, Ras el Ma (Chefchaouen), Oued Maggou, Douar Aouzighen; Oosterbroek 2020 (CCW)
- Tipula* (*Savtshenkia*) *confusa* van der Wulp, 1883  
Adghir et al. 2018, **Rif**, maison forestière (Talassemthane)
- Tipula* (*Savtshenkia*) *rufina rufina* Meigen, 1818  
Theowald and Oosterbroek 1980, **HA**, Oukaïmeden; Theowald and Oosterbroek 1983, **Rif**, **Atlas**; Oosterbroek and Theowald 1992; Adghir et al. 2018, **Rif**, Ras el Ma (Chefchaouen); Oosterbroek 2020 (CCW)
- Tipula* (*Tipula*) *mediterranea* Lackschewitz, 1930  
Vaillant 1956b, **HA**, Oukaïmeden (2250 m), M’Goun (2500 m); Mannheims 1952; Theowald and Oosterbroek 1980, **MA**, Ifrane, **HA**, Oukaïmeden, M’Goum, Asni, M’Semrir, Ifni, Bab-Rou-Idie, Tizi-N’Tichka, Setti Fatma; Theowald 1984, **Rif**; Eiroa 1990, **MA**, Azrou, Oum-Er-Rbia; Oosterbroek and Theowald 1992; Pârvu et al. 2006 **AP**, Merja Zerga; Adghir et al. 2018, **Rif**, Ras el Ma (Chefchaouen), Jebel Tissouka, Bab Taza, Dardara, 4 km SE Ketama, Aïn Afersiw, Douar Kitane, Dayat Jebel Zemzem, Wilaya (Tétouan), Aïn El Ma Bared, Oued Tamerte, Douar Louamera, Tourbière Amesmlil, Dayat Mezine, Hejar Nehal, tributary of Oued Ouara, Oued Tkarae, Oued Jnane Niche, Dayat Afrate, Oued Ametrasse; Oosterbroek 2020 (CCW)
- Tipula* (*Tipula*) *oleracea* Linnaeus, 1758  
Mannheims 1952, **Rif**, Tlata Ketama; Theowald and Oosterbroek 1980, **Rif**, Tlata Ketama; Theowald 1984, **Rif**; Oosterbroek and Theowald 1992; Dakki 1997; Pârvu and Zaharia 2007; Oosterbroek 2011; Adghir et al. 2018, **Rif**, Oued Laou, Dardara, Jebel Tissouka, Ksar Rimal, 15 km from Fifi, Oued Aârate, Oued El Hamma, Douar Louamera, Oued Zaouya, Près de Beni Said, Wilaya (Tétouan), Tourbière Amesmlil, Oued Smir, Aïn Jdida; Oosterbroek 2020 (CCW) – MISR

*Tipula (Vestiplex) vaillanti vaillanti* Theowald, 1977

Adghir et al. 2018, **Rif**, Jebel El Kelâa (Talassemthane, 1340 m), Douar Kitane

*Tipula (Yamatotipula) afriberia afriberia* Theowald & Oosterbroek, 1980

Theowald and Oosterbroek 1980, **HA**, Oukaïmeden; Oosterbroek and Theowald 1992, **HA**, Oukaïmeden; Oosterbroek 1994a; Adghir et al. 2018, **Rif**, Jebel Tissouka, Dardara, Douar Mokedassen, Oued Zarka; Oosterbroek 2020 (CCW)

*Tipula (Yamatotipula) barbarentis* Theowald & Oosterbroek, 1980

= *Tipula lateralis* Meigen, in Pierre 1922a: 23, Pierre 1922b: 150, Séguy 1930a: 23, Séguy 1941a: 26, Mannheims 1952: 98 (in part), Vaillant 1956b: 238  
 Pierre 1922a, **AP**, Dradek (Rabat), **MA**, Azrou (riverside of Oued Tigrigra);  
 Pierre 1922b, **AP**, Mogador, **MA**, Beni Mellal, **HA**, Asni; Séguy 1930a; Séguy 1941a, **HA**, Imi n'Ouaka (1500 m); Mannheims 1952; Vaillant 1956b, **HA**, Oukaïmeden; Theowald and Oosterbroek 1980, **Rif**, Dardara, **MA**, Ifrane, Aghbalou, **HA**, Asni, Oukaïmeden, Setti Fatma, Imlil, Tizi-N'Tichka, Tadmant, Tachdirt; Eiroa 1990, **MA**, Azrou, Oum-er-Rbia, Ifrane; Oosterbroek and Theowald 1992, **HA**, Setti Fatma; Oosterbroek 1994a, **Rif**, Dardara, **MA**, Ifrane, Aghbalou, **HA**, Oukaïmeden, Setti Fatma, Imlil, Tizi-N'Tichka, Tadmant, Asni, Tachdirt; Dakki 1997; Adghir et al. 2018, **Rif**, Ras el Ma (Chefchaouen), Jebel Tissouka, Bab Taza, Dardara, 4 km SE Ketama, Aïn El Manzela, Aïn Bab Tariouante, Dayat Aïn Afersiw, Oued El Kanar, Dayat Afrate, Douar Kitane, Wilaya (Tétouan), 15 km from Fifi, Aïn Sidi Brahim Ben Arrif, Oued Nakhla, Âounsar Aheramen, Oued Boumerouil, Douar Zaouya, Oued Tizekhte, Oued Samsa, Dayat Aïn Jdioui, Douar Ouled Laghmari-Rmal, maison forestière Tazia, Hejar Nehal, Lot Hemmadi, tributary of Oued Ouara, Oued Sidi Mohamed Saâda, Oued Amsemlil, Tourbière Amesmlil, Beni Salah, Oued Jnane Niche, Oued Maggou, Souk Lhed Beni Darkoul, Oued Imassouden, Aïn Helouma, Source Zarka, Aïn Kchour; Oosterbroek 2020 (CCW) – MISR

## Trichoceridoidea

### TRICHOCERIDAE

K. Kettani, E. Krzemińska

Number of species: **8**. Expected: 10

Faunistic knowledge of the family in Morocco: good

#### Trichocerinae

#### *Trichocera* Meigen, 1803

*Trichocera (Trichocera) hiemalis* (DeGeer, 1776)

Pierre 1922b (**AP**, Rabat); Dakki 1997; Mouna 1998; **AP** (Rabat) – MISR

*Trichocera (Trichocera) marocana* Driauach, Krzemińska & Belqat, 2015

Driauach et al. 2015, **Rif**, Oued Akrir



*Trichocera (Saltrichocera) annulata* Meigen, 1818

Driauach et al. 2015, **Rif**, affluent Oued Akrir, Dayat Fifi, Oued Taria, Oued Kelâa, Oued Ouara, Oued à 15 km de Fifi, Aïn Mâaze, Oued Maggou, Aïn Quanquben, Oued Tizekhte, Forêt Jebel Bouhachem, **EM**, Grotte du Chameau, Oued Zegzel, Aïn Sidi Yahia, Cascade Grotte des pigeons, Oued Tafoughalt

*Trichocera (Saltrichocera) pappi* Krzemińska, 2003

Driauach et al. 2015, **Rif**, Dayat Fifi, affluent Oued Akrir, Oued Amsemlil, Ruisseau Agoummir, maison forestière, **EM**, Cascade Grotte des Pigeons, **MA**, Seguia El Hajeb

*Trichocera (Saltrichocera) saltator* (Harris, 1776)

Driauach et al. 2015, **Rif**, Dayat Fifi, Oued à 15 km de Fifi, Forêt Jebel Bouhachem, maison forestière, **EM**, Cascade Grotte des pigeons

*Trichocera (Saltrichocera) sardiniensis* Petrašiūnas, 2009

Driauach et al. 2015, **Rif**, Oued à 15 km de Fifi, affluent Oued Akrir, Oued Amsemlil, maison forestière

*Trichocera (Saltrichocera) regelationis* (Linnaeus, 1758)

Driauach et al. 2015, **Rif**, Oued Ouara, Aïn el Ma Bared, Oued à 15 km de Fifi, Cascade Chrafate, Aïn Quanquben

*Trichocera (Saltrichocera) rufescens* Edwards, 1921

Driauach et al. 2015, **Rif**, affluent Oued Akrir, Dayat Fifi, Oued Tassikeste, Oued Farda, Aïn Mâaze

## Psychodoidea

## PSYCHODIDAE

K. Kettani, R. Wagner

Number of species: **51**. Expected: 70

Faunistic knowledge of the family in Morocco: moderate

## Phlebotominae

*Phlebotomus* Loew, 1845*Phlebotomus (Larroussius) ariasi* Tonnoir, 1921

Gaud 1947a; Gaud and Laurent 1952, **AP**, Rabat; Bailly-Choumara et al. 1971, **AP**, **MA**, **HA**; Rioux et al. 1974; Mouna 1998; Guernaoui et al. 2005, **MA**, **HA**; Bounamous 2010; Boussaa et al. 2005; Boussaa et al. 2010

*Phlebotomus (Larroussius) chadlii* Rioux, Juminer & Gibily, 1966

Rioux et al. 1974, **HA**; Rioux et al. 1975; Croset et al. 1978; Mouna 1998; Bounamous 2010

*Phlebotomus (Larroussius) langeroni* Nitzulescu, 1930

Rislorcelli 1941, **HA**; Bailly-Choumara et al. 1971, **AP**, **EM**; Croset et al. 1978; Mouna 1998

- Phlebotomus (Larroussius) longicuspis* Nitzulescu, 1930  
Rislorcelli 1941, **HA**; Gaud and Laurent 1952, **AP**, Rabat; Bailly-Choumara et al. 1971, **Rif, EM, AP, MA, HA, AA**; Rioux et al. 1974, **HA**; Croset et al. 1978; Mouna 1998; Guernaoui et al. 2005, **Rif**, Chefchaouen, **HA, AA**, Agadir; Boussaa et al. 2005; Boussaa 2008; Boussaa et al. 2008; Boussaa et al. 2010; Bounamous 2010; Zarrouk et al. 2016
- Phlebotomus (Larroussius) mariae* Rioux, Croset, Léger and Bailly-Choumara, 1974  
Hervy et al. 1994; Rioux et al. 1974, **HA**; Mouna 1998; Guernaoui et al. 2005, **MA, HA**
- Phlebotomus (Larroussius) perfiliewi* Parrot, 1930  
Rioux et al. 1977; Croset et al. 1978; Mouna 1998
- Phlebotomus (Larroussius) perniciosus* Newstead, 1911  
Séguy 1930a; Gaud and Laurent 1952, **AP**, Rabat; Bailly-Choumara et al. 1971, **AP, EM, MA, HA, AA**; Mouna 1998; Guernaoui et al. 2005, **Rif**, Chefchaouen, **HA**; Boussaa et al. 2008; Bounamous 2010; Boussaa et al. 2010; Zarrouk et al. 2016
- Phlebotomus (Paraphlebotomus) alexandri* Sinton, 1928  
Bailly-Choumara et al. 1971, **AA**; Abonnenc 1972; Rioux et al. 1974, **HA**; Croset et al. 1978; Mouna 1998; Colacicco-Mayhugh et al. 2010, **EM**; Boussaa et al. 2010; Bounamous 2010
- Phlebotomus (Paraphlebotomus) chabaudii* Croset, Abonnenc & Rioux, 1970  
Rioux et al. 1974, **HA**; Rioux et al. 1975; Mouna 1998
- Phlebotomus (Paraphlebotomus) kazeruni* Theodor & Mesghali, 1964  
Mouna 1998
- Phlebotomus (Paraphlebotomus) riouxi* Depaquit, Killick-Kendrick & Léger, 1998  
Bounamous 2010
- Phlebotomus (Paraphlebotomus) sergenti* Parrot, 1917  
Séguy 1930a; Rislorcelli 1941; Rislorcelli 1947; Gaud and Laurent 1952, **AP**, Rabat; Bailly-Choumara et al. 1971, **Rif, AP, EM, MA, HA, AA**; Abonnenc 1972; Rioux et al. 1974, **HA**; Mouna 1998; Boussaa et al. 2009; Bounamous 2010
- Phlebotomus (Phlebotomus) bergeroti* Parrot, 1934  
Rioux et al. 1975, **HA**; Mouna 1998; Bounamous 2010
- Phlebotomus (Phlebotomus) papatasi* (Scopoli, 1786)  
Séguy 1930a; Rislorcelli 1941, Rislorcelli 1947, **HA**; Bailly-Choumara et al. 1971, **AP, EM, MA, HA, AA**; Abonnenc 1972; Rioux et al. 1974, **HA**; Croset et al. 1978; Mouna 1998; Boussaa et al. 2005; Boussaa 2008; Colacicco-Mayhugh et al. 2010, Mediterranean region; Bounamous 2010; Boussaa et al. 2010; Prudhomme et al. 2012
- Phlebotomus clydei* Sinton, 1928  
Bailly-Choumara et al. 1971, **EM**; Mouna 1998
- Phlebotomus lewisi* Parrot, 1948  
Bailly-Choumara et al. 1971, South **AP**; Mouna 1998

***Sergentomyia* França & Parrot, 1920***Sergentomyia* (*Grassomyia*) *dreyfussi* (Parrot, 1933)

Rislorcelli 1941, Rislorcelli 1947, **HA**; Bailly-Choumara et al. 1971, **AP**, **EM**, **MA**, **HA**; Abonnenc 1972; Rioux et al. 1974, **HA**; Croset et al. 1978; Mouna 1998; Boumezzough et al. 2009, **HA**, Marrakech; Bounamous 2010

*Sergentomyia* (*Parrotomyia*) *africana* (Newstead, 1912)

= *Phlebotomus* (*Parrotomyia*) *africana* (Newstead), in Rislorcelli 1941: 522, Bailly-Choumara et al. 1971: 454; Rioux et al. 1974: 99

Séguy 1930a (as subspecies of *minutus* Rondani: 43), **HA**, Marrakech; Rislorcelli 1941 (as subspecies of *minutus* Rondani: 528), **AA**, Ksar es Souk; Gaud and Laurent 1952 (as subspecies of *minutus* Rondani: 75), **AP**, Rabat; Bailly-Choumara et al. 1971 (as subspecies of *minutus* Rondani: 438), **AP**, **AA**; Rioux et al. 1974, **HA**; Croset et al. 1978 (as subspecies of *minutus* Rondani: 722); Mouna 1998; Boussaa et al. 2005; Boumezzough et al. 2009, **HA**, Marrakech; Bounamous 2010; Boussaa et al. 2010

*Sergentomyia* (*Sergentomyia*) *antennata* (Newstead, 1912)

= *Phlebotomus cinctus* Parrot & Martin, 1944, in Mouna 1998: 86

= *Phlebotomus signatipennis* Newstead, 1920, in Mouna 1998: 86

Bailly-Choumara et al. 1971, **EM**; Rioux et al. 1974, **HA**; Léger et al. 1974, **AA** (south of Morocco); Mouna 1998

*Sergentomyia* (*Sergentomyia*) *fallax* (Parrot, 1921)

Rislorcelli 1947; Gaud 1954; Bailly-Choumara et al. 1971, **AP**, **EM**, **MA**, **AA**; Rioux et al. 1974, **HA**; Mouna 1998; Guernaoui et al. 2005; Boussaa et al. 2005; Boussaa et al. 2007; Boumezzough et al. 2009, **HA**, Marrakech; Boussaa et al. 2010; Bounamous 2010

*Sergentomyia* (*Sergentomyia*) *minuta* (Rondani, 1843)

= *Phlebotomus minutus* Rondani, in Gaud and Laurent 1952: 75, Mouna 1998: 86

= *Phlebotomus* (*Sergentomyia*) *parroti* (Adler and Theodor), in Rislorcelli 1941: 526, Rislorcelli 1947: 487, Bailly-Choumara et al. 1971: 450, Rioux et al. 1974, 99

Séguy 1930a, **HA**, Marrakech; Gaud and Laurent 1952, **AP**, Rabat; Rislorcelli 1941; Rislorcelli 1947, **HA**; Bailly-Choumara et al. 1971, **Rif**, **AP**, **EM**, **MA**, **HA**; Rioux et al. 1974, **HA**; Croset et al. 1978 (from the mediterranean region to the Sahara); Mouna 1998; Boussaa et al. 2005; Boumezzough et al. 2009, **HA**, Marrakech; Bounamous 2010; Boussaa et al. 2010; Depaquit et al. 2015, **Rif**, Chefchaouen

*Sergentomyia* (*Sergentomyia*) *schwetzi* Adler, Theodor & Parrot, 1929

Bailly-Choumara and Léger 1976, **SA**, Aouinet-Torkoz; Mouna 1998

*Sergentomyia* (*Sintonius*) *christophersi* (Sinton, 1927)

Rioux et al. 1974, **HA**; Rioux et al. 1975; Croset et al. 1978; Mouna 1998

## Psychodinae

## Maruinini

***Tonnoiriella* Vaillant, 1982***Tonnoiriella paveli* Ježek, 1999Ježek 1999, **HA**, **AA**; Afzan and Belqat 2016*Tonnoiriella pulchra* (Eaton, 1893) (?) [probably mis-identification]

Wagner 1990; Ježek and Hájek 2007; Afzan and Belqat 2016

## Mormiini

***Mormia* Enderlein, 1935***Mormia tenebricosa* Vaillant, 1954= *Telmatoscopus (Mormia) tenebricosus* Vaillant, in Vaillant 1956b: 244Vaillant 1956b, **HA**, Imi-N’Ifri; Afzan and Belqat 2016, **Rif**, Oued Achekrade

## Paramormiini

***Clogmia* Enderlein, 1937***Clogmia albipunctata* (Williston, 1893)Afzan and Belqat 2016, **Rif**, Douar Kitane, Douar Moukhata, Oued Mhanech, **AP**, Douar Aoulad Ali (Central Plateau (Coastal region))***Panimerus* Eaton, 1913***Panimerus thienemanni* (Vaillant, 1954)= *Panimerus maynei* (Tonnoir, 1919), in Dakki 1997: 62Boumezzough and Vaillant 1986b, **HA**, Assif Réghaya; Afzan and Belqat 2016***Paramormia* Enderlein, 1935***Paramormia ustulata* (Walker, 1856)Vaillant 1956b, **HA**; Mouna 1998; Ježek and Yağcı 2005; Omelková and Ježek 2012a; Afzan and Belqat 2016, **Rif**, Seguia Barrage Dar Chaoui, Douar Kitane, Oued Jnane Niche

## Pericomini

***Bazarella* Vaillant, 1964***Bazarella atra* (Vaillant, 1955)= *Pericoma atra* Vaillant, in Vaillant 1956b: 234, 238, 242Vaillant 1956b, **HA**, Assif Tasouat (M’Goum), Siroua, Imi-N’Ifri, Aguelmous, Sidi Chamarouch, Lac Tamhda (Anremer), Oukaïmeden; Boumezzough and Thomas 1987, **HA**, Oued Réghaya (Imlil, 1750 m); Dakki and

Himmi 2008; Afzan and Belqat 2016, **Rif**, Oued Inesmane, Oued Madissouka, Aïn Quanquben

***Pericoma* Walker, 1856**

*Pericoma (Pachypericoma) blandula* Eaton, 1893

Boumezzough and Vaillant 1986b, **HA**; Dakki 1997; Ježek 2004, **Rif**; Ježek and Hájek 2007; Dakki and Himmi 2008, **MA**, Oued Sebou; Omelková and Ježek 2012a; Afzan and Belqat 2016, **Rif**, Oued Taida, Âounsar Aherman, Oued Beni Ouachekradi, Oued Aâyaden, Cascade Ras el Ma

*Pericoma (Pericoma) barbarica* Vaillant, 1955

Vaillant 1956b, **HA**, M'Goum; Afzan and Belqat 2016, **Rif**, Oued Taida, Douar Taria, Cascade Grotte des pigeons

*Pericoma (Pericoma) granadica* Vaillant, 1978

Boumezzough and Vaillant 1986b, **HA**; Vaillant and Moubayed 1987; Dakki 1997; Dakki and Himmi 2008, **MA**, Oued Sebou; Afzan and Belqat 2016, **Rif**, Oued Taida, Ametrasse, Oued Farda, Oued Aâyaden, Oued Ras el Ma, **MA**, Aïn Vittel, **HA**, Cascade sur sol cuivreux, Oued Réghaya

*Pericoma (Pericoma) diversa* Tonnoir, 1920

Vaillant 1978, **HA**; Afzan and Belqat 2016, **Rif**, Cascade Chrafate

*Pericoma (Pericoma) exquisita* Eaton, 1893

Ježek 2004, **Rif**, **HA**; Afzan and Belqat 2016

*Pericoma (Pericoma) latina* Sarà, 1954

Vaillant 1955, **HA**; Afzan and Belqat 2016, **Rif**, Cascade Chrafate, Oued Maggou, Nord Village Maggou, Oued Kelâa, Oued Talembote, Oued associé à Dayat Fifi, Oued Tiffert, Oued à 20 km de Fifi, Oued El Kanar, Beni Fenzar

*Pericoma (Pericoma) maroccana* Vaillant, 1955

= *Pericoma numidica* var. *marocana* Vaillant, 1955

Boumezzough and Vaillant 1986b, **HA**, Tissaout; Dakki 1997; Afzan and Belqat 2016, **Rif**, Cascade Chrafate, ruisseau maison forestière; Dakki and Himmi 2008, **MA**, Oued Sebou

*Pericoma (Pericoma) modesta* Tonnoir, 1922

= *Pericoma numidica* Vaillant, in Vaillant 1956b: 236, 237, 240

Vaillant 1956b, **HA**, Assif Tassouat (M'Goum), Lac Tamhda (L'Anremer); Boumezzough and Vaillant 1986b, **HA**; Dakki 1997; Dakki and Himmi 2008, **MA**, Oued Sebou; Afzan and Belqat 2016

*Pericoma pseudexquisita* Tonnoir, 1940

Afzan and Belqat 2016, **Rif**, Oued Azila

***Pneumia* Enderlein, 1935**

*Pneumia nubila* (Meigen, 1818)

Afzan and Belqat 2016, **Rif**, Aïn Mâaze

*Pneumia pilularia* (Tonnoir, 1940)

Ježek 2004; Ježek and Hájek 2007; Omelková and Ježek 2012a

*Pneumia propinqua* (Satchell, 1955)

Afzan and Belqat 2016, **Rif**, Chrafate, Oued Zarka

*Pneumia reghayana* (Boumezzough & Vaillant, 1986)

= *Satchelliella reghayana* Boumezzough & Vaillant, 1986, in Boumezzough and Vaillant 1986b: 238

Boumezzough and Vaillant 1986b, **HA**; Dakki 1997; Dakki and Himmi 2008; Afzan and Belqat 2016

*Pneumia toubkalensis* Omelková & Ježek, 2012

Omelková and Ježek 2012b, **HA**, Toubkal; Afzan and Belqat 2016, **Rif**, Oued Aâyaden, Aïn Ras el Ma

Psychodini

***Philosepedon* Eaton, 1904**

*Philosepedon (Philosepedon) humeralis* (Meigen, 1818)

Afzan and Belqat 2016, **Rif**, Oued Hachef, Cascade Ras el Ma, Oued El Kanar, 2 km de Douar Assoul, Oued Aâyaden

***Psychoda* Latreille, 1796**

*Psychoda (Logima) albipennis* (Zettersdedt, 1850)

= *Logima albipennis* (Zettersdedt), in Mouna 1998: 86  
Mouna 1998

*Psychoda (Psychoda) grisescens* Tonnoir, 1922

Ježek 2004, **Rif**; Afzan and Belqat 2016, **Rif**, Douar Kitane, **MA**, Gîte Aït Ayoub

*Psychoda (Psychoda) uniformata* Haseman, 1907

Ježek 2004, **Rif**; Afzan and Belqat 2016

*Psychoda (Psychodocha) cinerea* Banks, 1894

Boumezzough and Thomas 1987, **HA**, Azib Oukaïmeden (2730 m); Dakki 1997; Dakki and Himmi 2008; Afzan and Belqat 2016, **Rif**, Oued Tazzarine, Douar Taria, Douar Kitane, Oued Chrafate, Oued Aâyaden, **EM**, Cascade Grotte des Pigeons (Béni Snassen)

*Psychoda (Psychodocha) gemina* (Eaton, 1904)

Afzan and Belqat 2016, **Rif**, Dayat Fifi, Oued Zarka, Douar Kitane, Oued Aâyaden

*Psychoda (Tinearia) alternata* Say, 1824

Tonnoir 1920, **HA**, La Maire; Boumezzough and Thomas 1987, **HA**, Oued Réghaya (1740 m), Imlil; Dakki 1997; Dakki and Himmi 2008; Afzan and Belqat 2016, **Rif**, Oued Nakhla, Oued Farda, Oued Ouara, Oued Ametrasse, Oued Chrafate, Douar Derâa, Douar Ihermochene, Douar Ikhlafene, Douar Taria, Douar Idrene, Douar Kitane, Oued 2 km de Douar Assoul, Oued Aâyaden, ruisseau maison forestière, Oued Mhannech, Aïn Sidi Yahia, **MA**, Gîte Aït Ayoub

## Scatopsoidea

SCATOPSIDAE<sup>3</sup>

K. Kettani, J.P. Haenni

Number of species: **13**. Expected: 30–40

Faunistic knowledge of the family in Morocco: poor

## Ectaetiinae

***Ectaetia* Enderlein, 1912**

*Ectaetia clavipes* (Loew, 1846)

= *Scatopse clavipes* Loew, in Mouna 1998: 84

Mouna 1998; Haenni and Kettani 2016, **Rif**, Amsa – MISR

## Psectrosciariinae

***Anapausis* Enderlein, 1912**

*Anapausis* sp.\*

**Rif**, Source Aïn Tissemlal

***Psectrosciara* Kieffer, 1911**

*Psectrosciara* sp. 1\*

**Rif**, Adrou

*Psectrosciara* sp. 2\*

**Rif**, Adrou

## Scatopsinae

***Coboldia* Melander, 1916**

*Coboldia fuscipes* (Meigen, 1830)

Haenni and Kettani 2011, **Rif**, Kitane, **AP**, El Jadida, Rabat, **AA**, Souss;

Haenni and Kettani 2016, **Rif**, Maggou, Aârkob, Jnane Niche; **Rif** (M'Diq farm) – MISR

***Parascatopse* Cook, 1955**

*Parascatopse* sp.

Haenni and Kettani 2011, **AA**, Ouarzazate – MHNN

---

3 The following species were considered as Moroccan on the basis of the species represented in the collections of the MISR (Rabat, Morocco): *Aspistes berolinensis* Meigen, 1818, *Apiloscatopse flavicollis* (Meigen, 1818), *Reichertella pulicaria* (Loew, 1846). However, none of these species is represented by specimens originating from Morocco. Accordingly, they are excluded from the present checklist.



***Quateiella* Cook, 1975***Quateiella inexpectata* Haenni, 1988Haenni and Kettani 2016, **Rif**, Afertane***Reichertella* Enderlein, 1912***Reichertella geniculata* (Zetterstedt, 1850)Haenni and Kettani 2016, **Rif**, Jnane Niche*Reichertella maroccana* Haenni, 2011Haenni and Kettani 2011, **HA**, Oukaïmeden – RMNH***Rhegmoclemina* Enderlein, 1936***Rhegmoclemina lunensis* Haenni & Godfrey, 2009Haenni and Kettani 2011, **Rif**, Boujda***Rhexoza* Enderlein, 1936***Rhexoza freyi* (Duda, 1936)Haenni and Kettani 2011, **AA**, Agadir – MHNN***Scatopse* Geoffroy, 1762***Scatopse notata* (Linnaeus, 1758)Mouna 1998; Haenni and Kettani 2016, **Rif**, Onsar Lile – MISR***Swammerdamella* Enderlein, 1912***Swammerdamella brevicornis* (Meigen, 1830)Haenni and Kettani 2011, **Rif**, Kitane, Oued Laou, Ketama, **AP**, El Jadida, Essaouira, **HA**, Ouarzazate; Haenni and Kettani 2016, **Rif**, Amsa, Jnane Niche, Ametrasse – MISR**New records for Morocco**

An undescribed species of *Anapausis* has been collected in the Rif mountains in 2014 by K. Kettani and will be described elsewhere.

*Anapausis* sp.

Rif: Forêt Azilane (NPT), Source Aïn Tissemlal, 1255 m, 35°11.67N, 5°15.20W, 7.vi.2014, Sapinière à *Abies maroccana* et *Pinus nigra*, 1♂.

Two undescribed species of *Psectrosciara* have been collected in the Rif mountains in 2013 by K. Kettani and will be described elsewhere.

*Psectrosciara* sp. 1

Rif: Taghzout (PNPB), Adrou, 556 m, 35°22.39N, 05°32.28W, chênes-liège, 14.vii–15.viii.2013, 6♂♂.

*Psectrosciara* sp. 2

Rif: Taghzout (PNPB), Adrou, 556m, 35°22.39N, 05°32.28W, chênes-liège, 14.vii–15.viii.2013, 3♂♂.

**PTYCHOPTERIDAE**

K. Kettani, R. Wagner

Number of species: **5**. Expected: 8

Faunistic knowledge of the family in Morocco: moderate

Ptychopterinae

***Ptychoptera* Meigen, 1803**

*Ptychoptera albimana* (Fabricius, 1787)

MISR (No locality given)

*Ptychoptera contaminata* (Linnaeus, 1758)

MISR (No locality given)

*Ptychoptera lacustris* Meigen, 1830

MISR (No locality given)

*Ptychoptera paludosa* Meigen, 1804

MISR (No locality given)

*Ptychoptera scutellaris* Meigen, 1818

MISR (No locality given)

**Culicoidea****CHAOBORIDAE**

K. Kettani, R. Wagner

Number of species: **2**. Expected: 4

Faunistic knowledge of the family in Morocco: poor

Chaoborinae

***Chaoborus* Lichtenstein, 1800**

*Chaoborus crystallinus* (De Geer, 1776)

Dakki 1997: 60

***Mochlonyx* Loew, 1844**

*Mochlonyx culiciformis* (De Geer, 1776)

Dakki 1997: 60

**CULICIDAE**

K. Kettani, B. Trari, O. Himmi, M. Dakki

Number of species: **43**. Expected: 60

Faunistic knowledge of the family in Morocco: good

## Anophelinae

***Anopheles* Meigen, 1818***Anopheles (Anopheles) algeriensis* Theobald, 1903

Viallate 1922, **AP**, Kénitra; Séguy 1930a; Bonjean 1947, **EM**, **MA**; Gaud 1957a, **HA**, north of High Atlas; Guy 1959a, **MA**, Béni Mellal, **HA**; Guy 1959b, **HA**; Guy 1959a, **MA**, Béni Mellal; Bailly-Choumara 1967a, **MA**, Ghorm El Alem; Benmansour et al. 1972, **MA**, Barrage Bin El Ouidane; Bailly-Choumara 1973b, **AP**, Sidi Yahia du Gharb; Metge 1986, **AP**, Casablanca; Trari and Himmi 1987, **AP**; Himmi et al. 1995; Louah 1995, **Rif**, Tahaddart, Schroda; Dakki 1997; Ramdani 1997, **AP**, Skhirat, Casablanca; Trari et al. 2002; Trari et al. 2004b; Himmi 2007, **Rif**, Chefchaouen; El Ouali Lalami et al. 2010 a,b, **MA**, Fès, Boulmane; El Ouali Lalami 2012, **MA**, Fès; Trari 2017, **Rif**, Chefchaouen, **AA**, Tiznit; Trari and Dakki 2017a, **Rif**, Chefchaouen, **AA**, Tiznit; Trari and Dakki 2017b, **AA**, Tiznit; Trari et al. 2017

*Anopheles (Anopheles) claviger* (Meigen, 1804)

Vialatte 1923, **AP**, Kénitra; Séguy 1930a, **AP**, Rabat; Langeron 1938, **HA**, Tounfit, Massou, Anefgou, Tirghist, Tighermine, Louggouargh; Callot 1940, **HA**, Anefgou, Tirghist; Bonjean 1947, **EM**, **MA**; Gaud 1947c, **MA**, Sefrou, Meknès; Gaud 1948, **AP**, Rabat, **MA**, El Hajeb, **AA**, Errachidia, Tadla; Gaud et al. 1948, **AP**, Skhirat; Guy 1963, **Rif**, Taounate, **MA**, Meknès, Ifrane; Bailly-Choumara 1967a, **MA**, piste Tafetchna-Taoujgelt, maison forestière Ouiouane, piste Tafetchna-Senoual-Itzer, piste Ksiba-Naour, piste Naour-Arbala, Zaouia Cheikh, Oued Sarif (environs El Ksiba), Dayet Aoua (environs Ifrane), Boulemane; Bailly-Choumara 1967b, **EM**, 8 km N Itzer; Bailly-Choumara 1967c, **Rif**, piste Ketama-Mt Tiguidin; Guy 1967, **HA**, Marrakech, **AA**, Tafilalt; Guy and Holstein 1968, **SA**; Metge 1986, **AP**, Casablanca; Himmi et al. 1995; Louah 1995, **Rif**, Haidra, Marina Smir; Dakki 1997; Ramdani 1997, **AP**, Skhirat, Tamaris drains, Tamaris merja; Trari et al. 2002; Trari et al. 2004b; Himmi 2007, **Rif**, Bab Berred, Tanakoub; Faraj et al. 2008b, **Rif**, Assoul, Mizgane; El Ouali Lalami et al. 2010a, **MA**, Boulmane; Larhballi et al. 2010, **MA**, Zhiliga, Boukachmir, Aït Ichou; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Anopheles (Anopheles) labranchiae* Falleroni, 1926

d'Anfreville 1916, **AP**, Salé; Delanoe 1917, **AP**, El Jadida; Viallate 1922, **AP**, Rabat, Boulhaut, Bouznika, Gharb, **MA**, Sidi Kacem, Tiflet, Fès, Taza; Charrier 1924, **Rif**, Tanger; Séguy 1930a, **MA**; Roubaud 1935, **AP**, Rabat; Sicault et al. 1935, **AP**, Merja Ras Eddaoura, Merja Zerga, dayas entre Sebou et Maâmora, Dar bel Hamri (entre barrage El Kansera et Sidi Slimane), à proximité de Merja Zerga, Douar Anabsa; Langeron 1938, **AA**; Callot 1940, **AA**; Ristorcelli 1946a,b, **HA**, Oued Tensift, Oued Issil; Bonjean 1947, **AP**, Gharb; Gaud 1947c, **MA**, Oulmès, **HA**, Marrakech; Gaud et al. 1948, **AP**, Merja Ras Eddaoura; Gaud et al. 1949, **AP**, Salé, **SA**, Foug Zguid, Tagounit;

Gaud 1953a, **AP**, from Tanger to El Jadida, **MA**, Tissa, Timhadit, Bekrit, Meknès, Ifrane (1700 m), **HA**, Sidi Aissa, Tizi-n'Tichka; Guy 1958, **HA**, Oued N'fis; Sacca and Guy 1960b, **Rif**, Tétouan, **AP**, Skhirat, Sidi Yahia, Sidi Bettache, Mazagan, Braila (près Sidi Allal Tazi), Aït Lahsen, **MA**, Meknès, **HA**, Marrakech; Guy 1962, **Rif**, Taounate, **AP**, Gharb, **HA**, Marrakech (ville et banlieu); Guy 1963, **Rif**, Tanger, Tétouan, **EM**, Berkane, Debdou, Oujda, **AP**, Kénitra, Souk Larba, Settât, Chamaïa, Safi, Casablanca, Rabat, Essaouira, **MA**, Meknès, Fès, Azrou, Oued Zem, Béni Mellal, **HA**, Kelaâ of Sraghna; Bailly-Choumara 1967a, **MA**, piste Tafechna-Znan Imes, piste Tafechna-Taoujgelt, piste Tafechna-Assoul, Aguelmane Azigza, piste Aguelmane Azigza-Aïn Leuh, maison forestière Ouiouane, route Khénifra-Tafechna, piste Tafechna-Senoual-Itzer, Ajdir, Itzer, Bords Moulouya, piste Itzer-Boumia, RN P.33 Boumia-El Kbab, Ouaoumana, piste Ksiba-Naour, piste Naour-Arbala, piste Arbala-El Kbab, Kafensour, Oued Sarif (environs El Ksiba), Dayet Aoua, Ifrane, Imouzer Marmoucha; Bailly-Choumara 1967b, **EM**, route Itzer-Midelt, Douar Sherba, Douar Aïn Shebbak, Douar Aïn Zabia, Douar Madarh, Douar Sidi Hashas, Mechraa safsaf; Bailly-Choumara 1967c, **Rif**, route Chaouen-Bab Taza, piste Bab Taza-Fifi, piste Bab Taza-Talassemtane, piste Bab Taza-Béni Ahmed, piste Bab Taza-Bab Berred, Anasar, piste Bab Berred-Tamorote, Ketama, route Ketama-Targuist, route nationale Jebha, Al Hoceima Club Med, Béni Bouayache, Targuist et environs; Guy 1967, **HA**, Marrakech, **AA**, Tafilalt; Bailly-Choumara 1968b, **AP**, Larache; Guy and Holstein 1968, **AA**, Ouarzazate; Bailly-Choumara 1970, **Rif**, Tétouan, **EM**, Berkane, **AP**, Larache, Sidi Yahia du Gharb, **HA**, Marrakech; Benmansour et al. 1972, **AA**, Agadir; Bailly-Choumara 1972a, **AP**, Merja Sheishat; Bailly-Choumara 1972b, **AP**, Merja Sheishat; Bailly-Choumara 1973a, **AP**, Merja de l'Oued Smir; Bailly-Choumara 1973b, **Rif**, Tétouan, **EM**, Berkane, **AP**, Merja Sheishat, **HA**, Souk des Oudaïas; de Zulueta et al. 1983, **Rif**; Ibn Jilali 1984, **AP**, Maâmora; Metge 1986, **AP**, Entre Oulad Dlim et Al Ara'ra; Trari and Himmi 1987, **AP**, Gharb; Himmi 1991, **AP**, Kénitra, Maâmora; Metge 1991, **AP**, Sidi Bettache; Trari 1991, **Rif**, Chefchaouen, Tanger, Taounate, **EM**, Oujda, **AP**, Sidi Amira, Sidi Boughaba, Merja Zerga, Sidi Allal Tazi, Aïn Chouk, Oued Loukous, Merja Oulad Skhar, **MA**, Khémisset, Béni Mellal, Khouribga, **HA**, El Kelaâ des Sraghrna, **AA**, Ouarzazate; El Bermaki 1993, **AP**, entre l'aéroport Anfa et l'aménagement d'El Oulfa, Sidi Maârouf, El Oulfa; Chlaida and Bouzidi 1995, **AP**, Aïn Blal, Oued Sidi Messoud; Louah 1995, **Rif**, Tres piedras, Marina Smir, Bouzerlal, Oued Maleh, Zekri, Lajour, Azla, Tahaddart, Skroda, Stehat, Moulay Bouchta, Kebbach, Talembote, Loubart, Chefchaouen, Oued Maggou, Bab Berred, Sidi Kankoch, Oued kbir, Oued Jebel Lehbib; Louah et al. 1995; Chlaida 1997, **AP**, Aïn Blal, Oued Sidi Messoud, Douar Chlihat, Barrage Al Massira; Moussalim 1997, **AP**, Sidi Allal Tazi, Maâmora; Ramdani 1997, **AP**, Tamaris, Skhirat; Faraj et al. 1997, **AP**, Ouled Moussa; Handaq 1998, **HA**, Oukaimeden, Amizmiz, Tiguenziouine;

Himmi et al. 1998, **AP**, Dayat d'El Menzeh (north-east of Kénitra), Sidi Boughaba; Alaoui Slimani et al. 1999, **AP**, Bou-Regreg Salé, Sidi Bouguet-taya, Quartier industriel Takaddoum, Marjane; Alaoui Slimani 2002, **AP**, Rabat-Salé; Trari et al. 2002; Faraj et al. 2003, **Rif**, Azib Bouflou, Azib Jrou, Imzouren, Amezzaourou, Tizi-Tamalout, **MA**, Aït Abdelsalam, Aït Lamfadel; Faraj et al. 2004, **Rif**, Azib Jrou, Tanghaya Akarkar, Amezzaourou, Ouled Nsar, **AP**, Fedalate, **MA**, Talaa Chougaga, Aïn Smen (Fès), Aït Lamfadel; Trari et al. 2004a, **Rif**, Larache; Trari et al. 2004b, **Rif**, Ketama, Gzenaya, Taounate, Bouzaghlal, Oued Laou, Smir (Merja), Béni Hassane, Azib Jrou, Azib Bouflou, **AP**, Laouamra, Aarabat Sidi Abdelaziz, Moukaouama, Dar Belamri, Laksibia, Mgadid, Beggara, Rabat (Chellah), **MA**, Adouz, Rommani (Khémisset), Aït Abderrahmane, Aït Ishaq, Oulad Messoud, Ouled Fennane, El karma, Oulad Zguida, Oulad Abbou; Aouinty et al. 2006, **AP**, Moham-media; Himmi 2007, **Rif**, Bab Berred, Bab Taza, Tanakoub, **AP**, Skhirate, Maâmora, Oulja, Bouknadel, Sidi Azzouz, Tamaris, **MA**, Khémisset; Faraj et al. 2008a, **AP**, Laouamra, Boucharen, **MA**, Béni Khlef, Talaa Chougaga; Faraj et al. 2008b, **Rif**, Assoul, Mizgane; El Ouali Lalami et al. 2010b, **MA**, Fès; Faraj et al. 2010, **AP**, Begara, Boucharen, Ben Slimane, Skhirat, Rabat, Se-houl, **MA**, Sidi Allal Msader, Aïn Aghbal, Aïn Elouali, Sidi Kacem; Larhbali et al. 2010, **MA**, Aït Haddou Said; Adlaoui et al. 2011, **AP**, Larache; Larhbali et al. 2011, **MA**, Oulmès, Aït Yadin, Sfassif, Mâaziz, Rommani, Laghoualem, Ezzhiliga, Sidi Allal Bahraoui, Boukachmine, Aït Malek, Sidi Boukhalkhal, Bni Ounzar, Ganzra, Aït Siberne, Sidi Allal Msader, El Ghandour; El Ouali Lalami 2012, **MA**, Pont Diamant vert, Sidi Harazem, Oued El Himmer, Moulay Yakoub, Oued Sebou, Aïn Kansara, Oued Aïn Chkef, Sefrou, Boule-man; Laboudi et al. 2012, **AP**, Larache; Hadji et al. 2013, **AP**, Sidi Slimane; El Joubari et al. 2014, **Rif**, Smir lagoon; Laboudi et al. 2014, **Rif**, Tétouan, Tanger, Chefchaouen, Al Hoceima, **AP**, Larache, Salé, **MA**, Taza, Khémis-sat; El Joubari et al. 2015a, **Rif**, Smir lagoon; El Joubari et al. 2015b, **Rif**, Smir lagoon; Marc et al. 2016, **AP**, Kénitra; Trari 2017, **Rif**, Chefchaouen, Tétouan, **AP**, Larache, Rabat, Settât, **EM**, Oujda, **MA**, Khémisset, Meknès, Khouribga, **HA**, Marrakech, **AA**, Tiznit, Ouarzazate; Trari and Dakki 2017a, **Rif**, Chefchaouen, Tétouan, **AP**, Larache, Rabat, Settât, **EM**, Oujda, **MA**, Khémisset, Meknès, Khouribga, **HA**, Marrakech, **AA**, Tiznit, Ouarzazate; Trari and Dakki 2017b; Trari et al. 2017

*Anopheles (Anopheles) marteri* Senevet & Prunelle, 1927

Gaud 1945b, **MA**, El Hajeb, Khénifra, **HA**, Tizi-n'test, Tillougite; Gaud et al. 1949, **HA**, Tizi-n'test; Gaud 1953b, **HA**, Tizi-n'test; Bailly-Choumara 1967b, **EM**, Grotte du Zegzel; Bailly-Choumara 1967c, **Rif**, route Chaouen-Bab Taza, piste Bab Taza-Béni Ahmed, route Bab Taza-Bab Berred, piste Bab Taza-Asifane, piste Bab Berred-Tamorote, Ketama, route Ketama-Targuist, route nationale Jebha, Boured; Benmansour et al. 1972, **MA**, Taza; Trari 1991, **Rif**, Taounate; Himmi et al. 1995; Dakki 1997; Trari et al. 2002; Himmi 2007;

Trari 2017, **Rif**, Chefchaouen, **AP**, Settati; Trari and Dakki 2017a, **Rif**, Chefchaouen, **AP**, Settati; Trari and Dakki 2017b; Trari et al. 2017

*Anopheles (Anopheles) ziemanni* Grünberg, 1902

Senevet 1935, **MA**; Gaud et al. 1949, **HA**, plain of south and north of the Occidental Atlas; Gaud et al. 1950, **HA**, plain of south and north of the Occidental Atlas; Guy 1958, **HA**, Marrakech; Guy et al. 1958, **HA**, Oued N'fis; Guy 1967, **EM**, Oujda, **AP**, Rabat, **HA**, Marrakech, **AA**, Tafilelt; Bailly-Choumara 1970, **HA**, Marrakech; Benmansour et al. 1972, **MA**, Taza, **HA**, Haouz, Tadla Azilal; Bailly-Choumara 1973b, **HA**, Souk des Oudaias (Souk Tnine des Oudaias, 470 m); Trari 1991, **MA**, Tissa; Moussalim 1997, **AP**, 7.5 km de Sidi Allal Tazi; Trari et al. 2002; Trari et al. 2004b; Himmi 2007; Trari 2017, **Rif**, Tétouan, **AA**, Tiznit; Trari and Dakki 2017a, **Rif**, Tétouan, **AA**, Tiznit; Trari and Dakki 2017b; Trari et al. 2017

*Anopheles (Cellia) cinereus* Theobald, 1901

Viallate 1922, **MA**, Sefrou, Sidi Lamine, **HA**, Mtougui; Sicault et al. 1935, **AP**, Souk Larba of Gharb; Senevet 1935, **AP**, Souk Larba of Zemmour; Langeron 1938, **HA**, Anefgou, Tirghist, Valley of Sidi Yahia Ouyoussef, Tighermine, Louggouargh, Massou; Callot 1940, **HA**, Anefgou, Tirghist; Gaud 1945a, **Rif**, Meridional Rif, **EM**, Moulouya, **HA**, Marrakech, **AA**, Tansikht, valley de Sous; Gaud and Duthu 1945, **HA**, Marrakech; Viamonte and Ramirez 1945, **Rif**; Viamonte and Ramirez 1946, **Rif**; Ristorcelli 1946a, **HA**, Oued Tensift, Oued Issil; Ristorcelli 1946b, **HA**, Oued Tensift, Oued Issil; Gaud 1945b, **AA**, Tansikht; Gaud et al. 1949, **Rif**, Meridional Rif, **EM**, Moulouya, **HA**, Marrakech, **AA**, Tansikht, valley de Sous; Gaud et al. 1950, **Rif**, Meridional Rif, **EM**, Moulouya, **HA**, Marrakech, **AA**, Tansikht, valley de Sous; Gaud 1953a; Gaud 1958, **HA**, Marrakech; Guy 1962, **Rif**, Taounate, **HA**, Marrakech; Guy 1963, **MA**, Midelt, **AA**, Hamada of Draa; Bailly-Choumara 1965, **EM**, Aman d'Aït Oussa, Tiglit, El Megrinat, Taskala, Aïn Aït delouine, Oued mesdourt, Talmesdourt, Assa, **AA**, Aït Melloul, Oued Teima, Issen, Taroudant, Talaint, Tiznit, Oued Assaka, Anezi, Pont de la route Agadir-Tiznit, valley of low Draa, Taфраoute, Tacharicht, Bou Izakarn, Jemâa N'tirhirte, Aït Erkha, Tazert, Barrage Taourirt, **AA**, Goulmima, **SA**, Aouinet Torkoz, Tirh Mzoun; Bailly-Choumara 1966, **AA**, piste Foug Zguid-Lac Iriqui, Agadir-Tissint, Akka-Iguiren, Tirhem, Taoujgelt, Souk El Khémis Dades, Akka, Aït Ouabelli, Foug-el-Hassan, Tarhjicht, Aït melloul, Taliouine, Tazenakht (Rocade of Draa); Bailly-Choumara 1967a, **MA**, route Azrou-Khénifra, Jnane Imasse, piste Tafelchna-Taoujgelt, piste Tafelchna-Assoul, Sources Oum-er-Rbia, Itzer, piste Itzer-Boumia, Ouauoumana, piste Ghorm El Alem-El Ksiba, piste Naour-Arbala, Zaouia Cheich, kafensour, Ifrane, Imouzzar Marmoucha; Bailly-Choumara 1967b, **EM**, 7 km N Itzer, 8 km N Itzer, route Itzer-Midelt, Aïn Srouna, Gouttitir, Cascade Oued Za, Grotte du Zegzel, Douar Aïn Sultane, Mechraa Safsaf, Oujda, Berguent (valley of Moulouya), Figuig; Bailly-Choumara 1967c, **Rif**, Chaouen ville, route Chaouen-Bab Taza, Bab Taza, piste Bab Taza-Fifi,

piste Bab Taza-Talassemtane, piste Bab Taza-Béni Ahmed, route Bab Taza-Bab Berred, piste Bab Berred-Assifane, Anasar, piste Bab berred-Tamorote, Ketama, route Ketama-Targuist, route nationale Jebha, route Al Hoceima-Arba Taourirt, Arba Taourirt, Targuist et environs, route Targuist Al Hoceima, Jebha, Oued Ouergha, route Aknoul-Al Hoceima; Guy 1967, **AP**, Rabat, **EM**, Oujda, **HA**, Marrakech, **AA**, Tafilalet; Bailly-Choumara 1970, **HA**, Marrakech; Bailly-Choumara 1973b, **HA**, Souk des Oudaïas; Trari 1991, **Rif**, Al Hoceima, Chefchaouen, Taounate, **EM**, Nador, Oujda, Figuig, **AP**, Larache, Settat, Ben Slimane, **MA**, Khénifra, Taza, Khouribga, **HA**, Kelaâ of Sraghna, **AA**, Ouarzazate, Goulmima; Bouallam 1992, **HA**, Oued N'fis; Louah 1995, **Rif**, Marina Smir, Bouzerlal, Tahaddart, Stehat, Moulay Bouchta, Kebbach, Loubart, Oued Maggou; Louah et al. 1995; Bouallam et al. 1997b, **HA**, Marrakech; Handaq 1998, **HA**, Amizmiz, Tiguenziouine; Bouallam 2001, **HA**, Oued N'fis; Trari et al. 2002; Trari et al. 2004b, **Rif**, Ketama, Azib Jrou, Sidi Mokhfi, **MA**, Taghzirt, Aghbala, Aït Shak, Smaala, Mlalih, Ouled Fennane, Béni Khlef, Tachrafte; Faraj et al. 2007, **Rif**, Assoul, Mizgane; Himmi 2007, **Rif**, Bab Berred, Bab Taza, Stehat, Tanakoub; Faraj et al. 2008, **Rif**, Assoul, Mizgane; El Ouali Lalami et al. 2010a, **MA**, Fès; El Ouali Lalami et al. 2010b, **MA**, Oued El Himmer; Larhballi et al. 2010, **MA**, Roumani Aïn Sbite, Jamâa M. B., Ghoualem, Zhiliga, Oulmès, Tarmilate, Boukachmir, Mrirte, Aït Ichou, Mâaziz, Tiddas, Bni Ounzar, Ganzra; El Ouali Lalami 2012, **MA**, Oued El Himmer; Trari 2017, **Rif**, Chefchaouen, Tétouan, **MA**, Khouribga, **AA**, Tiznit; Trari and Dakki 2017a, **Rif**, Chefchaouen, Tétouan, **MA**, Khouribga, **AA**, Tiznit; Trari and Dakki 2017b; Trari et al. 2017; Mouatassem et al. 2019, **MA**, Fès

*Anopheles (Cellia) dthali* Patton, 1905

Saccà 1960, **AA**, Aoufous, Meski, Erfoud, Agdz, Zogora, Tagounit, Tamsruth; Guy 1961, **HA**, Sud de Zagora (en bordure Hamada du Draa); Guy 1963, **AA**, Zagora and south of the High Atlas (at edge of Hamada of Draa), Oued Ziz; Bailly-Choumara 1965c, **AA**, Tiznit, **EM**, Aïn Aït Delouine, Aouinet Torkoz, Rich Tamlougout (eastern borders of Jebel Bani); Bailly-Choumara 1966, **AA**, piste Fom Zguid au Lac Iriqui, Agadir-Tissint, Akka-Iguiren, Souk El Khémis Dades, Akka et Environs, Aït Ouabelli, Tarhjicht, piste Tazenakhte à Fom Zguid (Rocade du Draa); Bailly-Choumara 1967b, **EM**, valley of Moulouya; Guy 1967, **HA**, Marrakech, **AA**, Tafilalet; Guy and Holstein 1968, **EM**, N Outat El Haj (valley of Moulouya), Gouttitir (environs de Taourirt); Bailly-Choumara 1970, **AA**, Fom Zquid; Bailly-Choumara 1973b, **AA**, Fom Zquid; Himmi et al. 1995; Dakki 1997; Trari et al. 2002; Trari et al. 2004b; Faraj et al. 2007, **Rif**, Assoul, Mizgane (SE of Bab Berred); Faraj et al. 2008, **Rif**, Assoul, Mizgane (SE Bab Berred); Himmi 2007; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Anopheles (Cellia) multicolor* Cambouliu, 1902

Messerlin and Treillard 1938, **HA**, Marrakech; Viamonte and Ramirez 1945, **Rif**; Guy 1963, **SA**; Bailly-Choumara 1965c, **EM**, Aït Oussa, Aman d'Aït



Oussa, Aïn Aït Delouine, Aouinet Torkoz, Rich tamlougout (Confins orientaux du Jebel Bani), **AA**, Tafnidilt, Guelta Zerga, Aïn Temda (valley of low Draa), Tirhmert (Goulmima), **SA**, Vallée et embouchure de l'Oued Assaka, Tantan ville, Tirh Mzoun; Bailly-Choumara 1966, **AA**, Rocade of Draa; Bailly-Choumara 1967b, **EM**, 40 km N de Outat El Haj, Gouttitir, Cascade Oued Za, Douar Aïn Shebbak (valley of Moulouya); Guy 1967, **HA**, Marrakech, **AA**, Tafilelt; Guy and Holstein 1968, **HA**, south of Atlas, **AP**, plain located between Marrakech and the Atlantic from Tanger along the length of the Mediterranean; Bailly-Choumara 1970, **AA**, Fom Zquid; Bailly-Choumara 1973b, **AA**, Fom Zquid; Metge 1986, **AP**, Casablanca; Trari 1991, **Rif**, Al Hoceima, Taounate, Oued Maleh, Bab Berred, **AP**, Tamaris Merja, **AA**, Ouarzazate; Himmi et al. 1995; Dakki 1997; Trari et al. 2002; Trari et al. 2004b; El Joubari et al. 2014, **Rif**, Smir lagoon; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Anopheles (Cellia) sergentii* (Theobald, 1907)

Séguy 1930a; Messerlin and Treillard 1938, **HA**, Tamelelt; Langeron 1938, **Rif**, Targhist; Callot 1940, **AA**, Taghjicht; Gaud 1947c, **AA**, Wadi Draa; Gaud et al. 1949, **Rif**, Zoumi, **HA**, Zaouia Sidi Hamza, Tizi-n'test (1700 m), Tillouguit (1800 m); Gaud et al. 1950, **Rif**, Zoumi, **MA**; Guy et al. 1958, **HA**, Oued N'fis; Guy 1961, **Rif**, **AP**, south of Casablanca, **AA**, Sud de Zagora; Guy 1962, **Rif**, **AP**, south of Casablanca, **HA**, Marrakech; Guy 1963, **Rif**, Tanger, **EM**, Berkane, **AP**, south of Casablanca, **MA**, Béni Mellal, **HA**, Oued Tensift, Oued Ziz, Marrakech, Chichaoua, **AA**, Oued Draâ, Oued Dades, Goulmima, sud de Zagora, **SA**, Fom Zquid; Bailly-Choumara 1965c, **EM**, iglit, Aman d'Aït Oussa, Oued Isker, El Megrinat, Aïn Aït Delouine, Oued Mesdourt, almesdourt, Aouinet Torkoz, Bouanama, Rich Tamlougout, Assa, **AA**, Tiznit, Tafraoute, Oued Izi, Bou Izakarn, Abeino (region of Goulmima), **SA**, Aouzeroual, Tirhmert, Tacharicht, Jebel Bani, Tantan; Bailly-Choumara 1966, **AA**, Rocade of Draa, Taliouine; Bailly-Choumara 1967a, **Rif**, **AP**, south of Casablanca, **MA**, Itzer, Ghorm El Alem, Zaouia Cheikh, Kafensour, **HA**, north of High Atlas; Bailly-Choumara 1967b, **EM**, Aïn Srouna, Grotte du Zegzel, Douar Mardarh, Douar Aïn Soultane, Merja Boubker, Selouane, Driouch (valley of Moulouya); Bailly-Choumara 1967c, **Rif**, route nationale Jebha, Targuist-Béni Boufrah, Al Hoceima, Béni Bouayache, Marchica, Had El Rouadi, Pont du Srah; Guy 1967, **HA**, Marrakech, **AA**, Tafilelt; Guy and Holstein 1968, **AP**, Casablanca; Bailly-Choumara 1970, **EM**, Berkane, **HA**, Marrakech; Bailly-Choumara 1973b, **EM**, Berkane, **HA**, Marrakech; Metge 1986, **AP**, Casablanca; Trari 1991, **Rif**, Al Hoceima, Taounate, **AP**, Larache, **AA**, Ouarzazate; Himmi et al. 1995; Dakki 1997; Trari et al. 2002; Faraj et al. 2003, **Rif**, Al Hoceima, Chefchaouen, Taounate, **HA**, Khouribga; Trari et al. 2004b, **Rif**, Ketama, Sidi Mokhfi; Faraj et al. 2007, **Rif**, Assoul, Mizgane; Faraj et al. 2008, **Rif**, Assoul, Mizgane; El Ouali Lalami et al. 2010a, **MA**, Fès; Larhbaliet al. 2010, **MA**, Oulmès, Ganzra; Trari 2017, **Rif**, Chefchaouen,

Tétouan, **EM**, Oujda, **MA**, Khouribga; Trari and Dakki 2017a, **Rif**, Chefchaouen, Tétouan, **EM**, Oujda, **MA**, Khouribga; Trari and Dakki 2017b; Trari et al. 2017; Benabdelkrim Filali et al. 2018; Mouatassef et al. 2019, **MA**, Fès

## Culicinae

### Aedini

#### *Aedes* Meigen, 1818

*Aedes (Acartomyia) mariae* (Sergent & Sergent, 1903)

Séguy 1930b; Messerlin 1938, **AP**, Rabat; Séguy 1930a, **Rif**, littoral méditerranéen; Bailly-Choumara 1967b, **Rif**, Al Hoceima; Bailly-Choumara 1967c, **Rif**, Al Hoceima; Bailly-Choumara 1968a, **Rif**, Al Hoceima, **AP**, Larache, Sidi Yahia, Sidi Allal Tazi, Rabat, **HA**, Marrakech, **AA**, Tiznit; Himmi et al. 1995; Mestari 1997, **AP**, Mohammedia; Moussalim 1997, **AP**, Sidi Allal Tazi; Trari et al. 2002; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Aedes (Aedimorphus) vexans* (Meigen, 1830)

Gaud 1947c, **AP**, Sidi Allal Tazi, **MA**, Khémisset; Metge 1986, **AP**, Littoral Casablanca; Himmi et al. 1995; Handaq 1998, **AP**, Gharbia; Dakki 1997; Trari et al. 2002; El Ouali Lalami et al. 2010a, **MA**, Fès; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Aedes (Dahlia) echinus* (Edwards, 1920)

Séguy 1924; Séguy 1930a; Gaud 1953a, **AP**, Rabat, Sidi Yahia, **MA**, Moulay Bouazza, Taza, Fès, Meknès, Ifrane; Bailly-Choumara 1965b, **AP**, Maâmora; Bailly-Choumara 1967c, **Rif**, piste Bab Taza-Talassemtane; Himmi et al. 1995; Trari et al. 2002; Nikookar et al. 2010; El Joubari et al. 2014; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Aedes (Dahlia) geniculatus* (Olivier, 1791)

Séguy 1924, **MA**; Séguy 1930a; Metge and El Alaoui 1987, **AP**, Subéraies de Béni Abid-Benslimane (Casablanca); Metge and Belakoul 1989, **AP**, Sidi Bettache; Himmi et al. 1995; El Ouali Lalami et al. 2010a, **MA**, Fès Boulmane; Trari et al. 2002; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Aedes (Ochlerotatus) berlandi* (Séguy, 1921)

Séguy 1930a, **AP**, Rabat; Gaud 1953a, **MA**, Fès; Bailly-Choumara 1967a, **MA**, Jnane Imasse, piste Tafchna-Taoujgelt; Bailly-Choumara 1967c, **Rif**, piste Bab Taza-Béni Ahmed; Belakoul 1985, **AP**, Benslimane, Sidi Bettache; Metge and El Alaoui 1987, **AP**, Casablanca; Metge and Belakoul 1989, **AP**, Benslimane, Sidi Bettache; Trari et al. 2002; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Aedes (Ochlerotatus) caspius* (Pallas, 1771)

Séguy 1930b; Viamonte et Ramirez 1946, **AP**, Larache; Gaud 1952, **AP**, Rabat, Casablanca; Gaud 1953a, **AP**, Rabat, Casablanca; Senevet and Andarelli 1954, **EM**, Embouchure de la Moulouya, Figuig, **AP**, Jorf Lasfar, Mohammedia, Rabat, **MA**, Meknès, Fès, Taza, **HA**, Marrakech, Midelt, **AA**, Tiznit;

- Bailly-Choumara 1966, **AA**, environs de Tiznit; Bailly-Choumara 1967a, **EM**, Bords Moulouya (près Itzer), Cherarba; Bailly-Choumara 1967b, **EM**, Cherarba, Aïn Shebbak, Saidia, Berguent; Bailly-Choumara 1967c, **Rif**, piste Al Hoceima-Arba Taourirt; Bailly-Choumara 1972a, **AP**, Merja Sheishat; Bailly-Choumara 1973b, **Rif**, Merja de l'Oued Smir; El Kaim 1972, **AP**, Bou-Regreg; Rioux et al. 1975, **AP**, Rabat-Salé; Metge 1986, **AP**, Littoral casablancais; Himmi 1991, **AP**, Sidi Boughaba; Trari 1991, **AP**, Sidi Boughaba, Merja Zerga, Oued Loukous; Himmi et al. 1995; Mestari 1997, **AP**, Mohammedia; Moussalim 1997, **AP**, Sidi Allal Tazi, Kénitra; Ramdani 1997, **AP**, Tamaris Merja; Handaq 1998, **AP**, Zemamra, B. Iffou (Entre El Oualidia et Youssoufia), **MA**, Béni Mellal, **HA**, Marrakech, Zaouiet Ben Sassi, Bengrir; Himmi et al. 1998, **AP**, Sidi Boughaba; Trari et al. 2002; Himmi 2007, **AP**, Sidi Boughaba; Alaoui Slimani 2002, **AP**, Rabat; Aouinty et al. 2006, **AP**, Mohammedia; El Joubari et al. 2014, **Rif**, Smir lagoon; El Joubari et al. 2015a, **Rif**, Smir lagoon; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017
- Aedes (Ochlerotatus) coluzzii* Rioux, Guilvard & Pasteur, 1998 et *Aedes (Ochlerotatus) detritus* (Haliday, 1833) [Complexe detritus]
- Charrier 1924, **Rif**, Tanger; Séguy 1930a; Gaud 1953a, **EM**, Saidia, **AP**, Kénitra, Rabat, Bouznika, El jadida, Oualidia, **HA**, Marrakech, **AA**, Agadir, Tafnidilt; Bailly-Choumara 1965c, **EM**, Aïn Aït delouine, **SA**, Tihmert; Bailly-Choumara 1970, **Rif**, Tétouan; Knight 1971, **AP**, Kénitra; El Kaim 1972, **AP**, Bou-Regreg; Bailly-Choumara 1973b, **Rif**, Merja de l'Oued Smir; Rioux et al. 1975, **AP**, Rabat; Pasteur et al. 1978, **AP**, Bou-Regreg; Metge 1986, **AP**, Littoral casablancais; Himmi 1991, **AP**, Sidi Boughaba; Trari 1991, **AP**, Sidi Boughaba, Merja Zerga, Oued Loukous; Louah 1995, **Rif**, Tres piedras, Cabo Negro, Lajour, Azla, Tahaddart; Himmi et al. 1995; Louah et al. 1995; Mestari 1997, **AP**, Mohammedia; Moussalim 1997, **AP**, Sidi Allal Tazi, Rabat; Ramdani 1997, **AP**, Tamaris Merja; Handaq 1998, **AP**, Essaouira, Zima-Chemaïa; Himmi et al. 1998, **AP**, Sidi Boughaba; Himmi 2007, **AP**, Sidi Boughaba; Alaoui Slimani 2002, **AP**, Rabat; Trari et al. 2002; El Joubari et al. 2014, **Rif**, Smir lagoon; El Joubari et al. 2015a, **Rif**, Smir lagoon; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017
- Aedes (Ochlerotatus) pulchritarsis* (Rondani, 1872)
- Gaud 1953a, **AP**, Benslimane, Sidi Yahia, Rabat, **MA**, Oued Zem, Khénifra, Fès; Metge and El Alaoui 1987, **AP**, Benslimane; Himmi et al. 1995; Trari et al. 2002; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017
- Aedes (Rusticoides) rusticus* (Rossi, 1790)
- Viamonte and Ramirez 1946, **Rif**, Tétouan, **AP**, Larache; Gaud 1953a, **MA**, Taza; Himmi et al. 1995; Handaq 1998, **HA**, Bengrir; Trari et al. 2002; El Ouali Lalami et al. 2010a, **MA**, Fès; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017
- Aedes (Stegomyia) aegypti* (Linnaeus in Hasselquist, 1762)
- d'Anfreville 1916, **AP**, Salé; Vialatte 1923, **AP**, Rabat, Casablanca, **HA**, Marrakech; Charrier 1924, **Rif**, Tanger; Gaud 1953a, **AP**, Salé, **HA**, Marrakech;

Himmi et al. 1995; Dakki 1997; Handaq 1998, **HA**, Bengrir; Trari et al. 2002; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Aedes (Stegomyia) albopictus* (Skuse, 1895)

Bennouna et al. 2016, **AP**, Agdal (Rabat); Trari 2017; Trari and Dakki 2017b; Trari et al. 2017; Faraj et al. 2018; Amraoui et al. 2019

## Culicini

### *Culex* Linnaeus, 1758

*Culex (Barraudius) modestus* Ficalbi, 1889

Séguy 1930a; Bailly-Choumara 1968a, **AP**, Larache; Trari 1991, **AP**, Gharb; Himmi et al. 1995; Dakki 1997; Handaq 1998, **HA**, Bengrir; Trari et al. 2002; Himmi 2007, **Rif**, Bab Berred, **AP**, Maâmora; Hadji et al. 2013, **AP**, Sidi yahia du Gharb, Kcebia, Sidi Hagouch (Sidi Slimane); Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Culex (Culex) brumpti* Galliard, 1931

Bailly-Choumara 1968a, **AP**, Merja Bokka, Larache, **HA**, Marrakech; Bailly-Choumara 1972a, **AP**, Merja Sheishat; Himmi et al. 1995; Dakki 1997; Himmi 2007; Trari et al. 2002; El Ouali Lalami et al. 2010a, **MA**, Fès; El Joubari et al. 2014, **Rif**, Smir lagoon; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Culex (Culex) laticintus* Edwards, 1913

Charrier 1924, **Rif**, Tanger; Callot 1940, **AA**, Goulmima (mares); Gaud 1953a, **HA**, Marrakech, **AA**, Agadir; Gaud 1957a, **EM**, Nador; Bailly-Choumara 1965c, **EM**, Oued Isker, Aïn Aït delouine, Talmesdourt, **AA**, Ouled Teima, ounaamane, Bou Izakarn, Agunil Khnufa, Akka-guiren; Bailly-Choumara 1966, **AA**, Akka-Iguiren, Tirherm, Taoujgelt, Aït Ouabelli, Anamere-Smougue, Aït melloul, Tiznit (Rocade de Draa); Bailly-Choumara 1967b, **Rif**, Béni Bouayache, Targuist et environs, **EM**, Grotte du Zegzel; Himmi et al. 1995; Dakki 1997; Trari et al. 2002; Himmi 2007, **AP**, Skhirat; Faraj et al. 2008b, **AP**, Louamra; Hadji et al. 2013, **AP**, Sidi Hagouch (Sidi Slimane); Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Culex (Culex) mimeticus* Noè, 1899

Séguy 1930a; Viamonte and Ramirez 1946, **Rif**, Béni Ider, Fnideq, Khemis Anjra, Ketama, Oued Amsa, Oued Krikra, Oued Martil, Oued Laou; Gaud 1953a, **Rif**, Ouezzane, Ghafsai, **EM**, Berkane, Martinpray (près Berkane), El Aïoun Sidi Mellouk, **AP**, Tamri, **MA**, Meknès, Fès, Ifrane, Taza, Béni Mellal, **HA**, Midelt, Marrakech, Azilal, **AA**, Tinghir, Tichka; Guy et al. 1958, **HA**, Oued N'fis; Bailly-Choumara 1965c, **AA**, Oued Noun, Anezi, Tafraoute; Bailly-Choumara 1966, **AA**, Agadir; Bailly-Choumara 1967a, **MA**, route Azrou-Khénifra, piste Tafelgha-Taoujgelt, Source Oumerrbia, Ghorm El Alem, piste Ksiba-Naour, piste Naour-Arbala, Zaouia Cheikh, Oued Sarif; Bailly-Choumara 1967b, **EM**, 7 km N d'Itzer, 8 km d'Itzer; Bailly-Choumara 1967c,

**Rif**, route Chaouen-Bab Taza, Bab Taza, piste Bab Taza-Fifi, piste Bab Taza-Talassemtane, piste Bab Taza-Béni Ahmed, route Bab Taza-Bab Berred, piste Bab Taza-Asifane, piste Bab Berred-Tamorote, Ketama, piste Ketama-Jebel Tidighine, route Ketama-Targuist, route nationale Jebha, Al Hoceima, Béni Bouayache, Marchica, Targuist et environs, Jebha, Boured; Trari 1991, **AP**, Sidi Yahia du Gharb; Himmi et al. 1995; Louah 1995, **Rif**, Riffien, Tres piedras, Marina Smir, Bouzaghlal, M'diq, Oued Maleh, Azla, Tahaddart, Moulay Bouchta, Schroda, Kebbach, Talambote, Oued Maggou; Louah et al. 1995; Chlaida 1997, **AP**, Oued Sidi Messoud, Aïn Blal, Douar Chlihat, Barrage Al Massira; Chlaida and Bouzidi 1995, **AP**, Barrage El Massira; Dakki 1997; Ramdani 1997, **AP**, Skhirat, Tamaris Merja; Handaq 1998, **HA**, Oukaïmeden, Amizmiz, Tiguenziouine (près Oued N'fis); Trari et al. 2002; Himmi 2007, **Rif**, Bab Berred, **AP**, Bouknadel, Douar jdidi (Skhirat); El Ouali Lalami et al. 2010a, **MA**, Fès; Larhballi et al. 2010, **MA**, Oulmès; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Culex (Culex) perexiguus* Theobald, 1903

Séguy 1930a; Callot 1940, **AA**, Assa; Senevet and Andarelli 1959a, **EM**, Oujda, Taourirt, **AP**, Aïn el Aouda, Arbaoua, Had Kourt, Oued Beht, Rabat, Allal Tazi, Oued Sahli, Zaouia Ech cheikh, Taghzirt, **MA**, Béni Mellal, Foum Zabel, Ifrane, Meknès, Aït Atta du Rteb, Fès, Sidi Mokhfi, Tahala, **HA**, Tazert, Midelt, **AA**, akka, Tamri; Bailly-Choumara 1965c, **EM**, Assa; Bailly-Choumara 1966, **AA**, Souk El Khémis Dades, Aït Ouabelli, Tarhjicht, Tirherm, Taoujgelt, Aït melloul; Bailly-Choumara 1967a, **MA**, piste Tafachna-Taoujgelt, piste Tafachna-Assoul, Ajdir; Bailly-Choumara 1967b, **EM**, Madagh, Merja Boubker, Aïn Béni Mathar; Bailly-Choumara 1967c, **Rif**, piste Bab Taza-Fifi, piste Bab Taza-Talassemtane, piste Bab Taza-Béni Ahmed, route Bab Taza-Bab Berred, Anasar, piste Bab Berred-Tamorote, Ketama, route Ketama-Targuist, route nationale Jebha, Béni Bouayache, Targuist et environs; Bailly-Choumara 1972a, **AP**, Merja Sheishat; Louah 1995, **Rif**, Riffien, Tres piedras, Marina Smir, Bouzaghlal, Oued Maleh, Tahaddart, Talembote, Schroda, Tanger; Louah et al. 1995; Mestari 1997, **AP**, Mohammedia; Moussalim 1997, **AP**, Sidi Allal Tazi, El Oulja, Fouarate; Ramdani 1997, **AP**, Skhirat, Tamaris; Handaq 1998, **HA**, Marrakech, entre Oued N'fis et Chichaoua, Kelaâ Sraghna; Alaoui Slimani 2002, **AP**, Rabat, Salé; Trari et al. 2002; Himmi 2007, **Rif**, Bab Berred, Bab Taza; Faraj et al. 2008c, **AP**, Larache Louamra; El Ouali Lalami et al. 2010a, **MA**, Fès; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017; Mouatasssem et al. 2019, **MA**, Fès

*Culex (Culex) pipiens* Linnaeus, 1758

d'Anfreville 1916, **AP**, Salé; Charrier 1924, **Rif**, Tanger; Séguy 1930a; Callot 1940, **SA**, Goulimine; Viamonte and Ramirez 1946, **Rif**, Boudinar, Dar Benkarrich, Tétouan, Tanger, Asilah, Ksar El Kébir, Chefchaouen, Ketama, Nador; Gaud 1952, **AP**, Gharb; Séguy 1953a, **SA**, Tindouf; Guy 1958, **HA**, Oued N'fis; Guy et al. 1958, **HA**, Oued N'fis; Bailly-Choumara 1965c, **EM**,

Aouinet Aït Oussa, Aïn Isker, Aïn Aït Delouine, Oued Mesdourt, Talmesdourt, Toudi, **AA**, Aït Onmar, Oulad Teima, Taroudant, Tiznit ville, Talaint, Hassi Tafnidilt, Zaouiat Cheikh, Aïn Guerzim, Tafraout ville, **SA**, Goulimine ville, Vallée de l'Oued Assaka, Ouaroun, Zriouila, Labyar, Tighmert, Abeino, Tantan ville, Zag; Bailly-Choumara 1966, **AA**, piste d'Akka au Draa, Akka et environs, Aït Ouabelli, Anamere-Smougue, Tarhjicht, Aït Melloul, Tiznit et environs; Bailly-Choumara 1967a, **MA**, route Azrou-Khénifra, piste Tafetchna-Taoujgelt, piste Tafetchna-Assoul, maison forestière Ouiouane, piste Tafetchna-Senoual-Itzer, Ajdir, Itzer, piste Itzer-Boumia, Ghorm El Alem, Ghorm El Alem-El Ksiba, El Ksiba, piste Ksiba-Naour, Zaouia Cheikh, Oued Sarif, Dayet Aoua, Pont Tarmilate, Ifrane, Imilchil; Bailly-Choumara 1967b, **EM**, route Itzer-Midelt, Gaada de Debdou, Guercif ville, Cascade Oued Za, Grotte du Zegzel, Environs Saidia, Douar Aïn Shebbak, Douar Aïn Zabia, Douar Mardarh, Douar Sidi Hashas, Saidia, Merja Boubker, Berguent, Tendrara, Figuig; Bailly-Choumara 1967c, **Rif**, Chaouen ville, route Chaouen-Bab Taza, piste Bab Taza-Talassemtane, piste Bab Taza-Béni Ahmed, route Bab Taza-Bab Berred, Anasar, piste Bab Berred-Tamorote, Ketama, route Ketama-Targuist, route nationale Jebha, Al Hoceima, Al Hoceima Club Med, Béni Bouayache, Marchica, Targuist et environs, Jebha, Ghafsai; Bailly-Choumara 1972a, **AP**, Merja Sheishat; Bailly-Choumara 1973b, **AP**, Merja Bokka, Merja Qodiya; Metge and Belakoul 1989, **AP**, Benslimane, Sidi Bettache; Himmi 1991, **AP**, Sidi Boughaba, Sidi Amira; Trari 1991, **AP**, Maâmora, El Menzeh, Sidi Boughaba, Chkaïfien, Sidi Yahia du Gharb, Bokka, Merja Zerga, Sidi Allal Tazi, Oued Loukous, Aïn Chouk, Merja Bargha, Merja Oulad Skhar; Bouallam and Ramdani 1992, **HA**, Marrakech; El Bermaki 1993, **AP**, Sidi Maârout; Himmi et al. 1995; Louah 1995, **Rif**, Fnideq, Riffien, Tres piedras, Marina Smir, M'diq, Cabo Negro, Zekri, Azla, Tahaddart, Schroda, Kebbach, Ouadras, Punta cirres, Sidi Kankoch, Oued Kbir; Louah et al. 1995; Bouallam et al. 1997b, **HA**, Marrakech; Dakki 1997; Mestari 1997, **AP**, Mohammedia; Himmi et al. 1998, **AP**, Sidi Boughaba, Puits de Sidi Amira (forest of Maâmora); Moussalim 1997, **AP**, El Oulja, Maâmora, Fouarate, Sidi Boughaba; Ramdani 1997, **AP**, meseta côtière (Témara-Casablanca); Faraj et al. 1997, **AP**, Kénitra; Handaq 1998, **AP**, Zemamra, **MA**, Oued Zem, **HA**, Marrakech, Zaouiet Ben Sassi, Sidi Bou Othmane, Kelaâ Sraghna, Bengrir; Bouallam 2001, **HA**, Marrakech; Alaoui Slimani 2002, **AP**, Rabat; Trari et al. 2002; Aouinty et al. 2006, **AP**, Mohammedia; Faraj et al. 2006, **AP**, Salé; Himmi 2007, **Rif**, Bab Berred, Bab Taza, Stehat, **AP**, Skhirate, forest of Maâmora, forest of Hilton, Sidi Boughaba, El Oulja, Ouled Salem, Ouled dlim, Douar Ould Yahia Ben Ali, Larouaza, Douar Elarja, Douar Jdid, Douar Jnaja; Faraj et al. 2008b, **AP**, Louamra; El Ouali Lalami et al. 2010a, **MA**, Fès; Larhbali et al. 2010, **MA**, Oulmès, Tarmilate, Bni Ounzar, Ganzra; Louali Lalami et al. 2010b, **MA**, Oued El Himmer; Amraoui 2012, **HA**, Marrakech; Amraoui et al. 2012, **Rif**, Tanger, **AP**, Mohammedia, Casablanca, **HA**, Marrakech; Am-



raoui et al. 2012, **AP**, Mohammedia, Casablanca; El Ouali lalami 2012, **MA**, route de Sidi Harazem; Hadji et al. 2013, **AP**, Sidi Slimane; El Joubari et al. 2014, **Rif**, Smir lagoon; El Joubari et al. 2015a, **Rif**, Smir lagoon; Marc et al. 2016, **AP**, Kénitra; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017; Bkhache et al. 2018, **Rif**, Tanger, **AP**, Rabat, Mohammedia, **HA**, Marrakech; Tmimi et al. 2018, **AP**, Mohammedia; Mouatassem et al. 2019, **MA**, Fès

*Culex (Culex) simpsoni* Theobald, 1905

Callot 1940, **AA**, Taghicht; Senevet et al. 1949, **AA**, Oued Noun, Tafnidelt, Akka; Gaud 1953a, **AA**, Imsouane, Aït Melloul, Akka, O'Noun, Taghjicht, Assa, Tafnidilt; Bailly-Choumara 1965c, **EM**, Aman d'Aït Oussa, El Megrinat, **AA**, Oued Izi, Oued Massa-Pont de la route Agadir-Tiznit, Guelta Zerga, Tafnidilt, **SA**, Poste militaire de Boujrid, Tirhmert, Taourirt-Barrage, Aouinet Torkoz; Bailly-Choumara 1966, **AA**, Tirherm, Taoujgelt, Taghjicht, Aït melloul, Tiznit; Chlaida and Bouzidi 1995, **AP**, Sidi M'barek, Oued Sidi Messoud, Mechrâa, Sidi Boulâarais, Douar Chlihat (south of Settât); Chlaida 1997, **AP**, Sidi M'barek, Mechrâa Settir, Sidi Boulâarais, Douar Chlihat (south of Settât); Dakki 1997; Handaq 1998, **HA**, Sidi Bou Othmane (Marrakech); Trari et al. 2002; Himmi 2007, **Rif**, Bab Berred, **MA**, Khémisset, **AA**, sud Anti Atlas; El Ouali Lalami et al. 2010a, **MA**, Fès; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Culex (Culex) theileri* Theobald, 1903

Callot 1940, **AA**, Taghjicht; Viamonte and Ramirez 1946, **Rif**, Dar Benkarich, Boudinar, Ketama, Tanger, Tétouan, Chefchaouen, **AP**, Larache; Guy 1958, **HA**, Oued N'fis; Guy et al. 1958, **HA**, Oued N'fis; Bailly-Choumara 1965c, **EM**, Aouinet Aït Oussa, Aïn Oumesdour, Aouinet Torkoz, **SA**, Tirh Mzoun; Bailly-Choumara 1966, **AA**, Souk El Khémis Dades, Akka et environs, Aït Melloul, Tazenakhte, piste Tiznit-Taфраout, **SA**, Goulimine; Bailly-Choumara 1967a, **MA**, piste Tafchna-Taoujgelt, piste Tafchna-Assoul, Aguelmane Azigza, piste Aguelmane Azigza-Aïn Leuh, maison forestière Ouiouane, Khénifra, piste Tafchna-Senoual-Itzer, Ajdir, Itzer, Col du Zad, piste Itzer-Boumia, Ghorm El Alem, piste Ghorm El Alem-El Ksiba, El Ksiba, piste Ksiba-Naour, Aguelmane Moulay Yakoub, Zaouia Cheich, Kafensour, Dayet Aoua, Pont Tarmilate; Bailly-Choumara 1967b, **EM**, route Itzer-Midelt, 40 km N Outat El Haj, Taourirt, Driouch, Figuig; Bailly-Choumara 1967c, **Rif**, piste Bab Taza-Fifi, piste Bab Taza-Talassemtane, route Bab Taza-Bab Berred, Anasar, piste Bab Berred-Tamorote, Ketama, route Ketama-Targuist, Arbaa Taourirt, Al Hoceima, Targuist et environs, Ghafsai; Bailly-Choumara 1972a, **AP**, Merja Sheishat; Bailly-Choumara 1973b, **AP**, Merja Sheishat, Merja Bokka; Himmi 1991, **AP**, Sidi Boughaba, El menzeh, Sidi Amira; Trari 1991, **AP**, Maâmora, Oued Sebou, Bordure Oued Loukous, Sidi Yahia du Gharb, Bokka, Entre Moulay Bousselham et Larache, Merja Zerga, Larache; El Bermaki 1993, **AP**, Sidi Maârout, El Oulfa; Louah 1995, **Rif**, Bouzeghlal, M'Diq, Oued Maleh, Zekri, Lajour, Tahaddart, Loubart, Chefchaouen, Tanger; Himmi et al. 1995;



Louah et al. 1995; Dakki 1997; Mestari 1997, **AP**, Mohammedia; Moussalim 1997, **AP**, Sidi Allal Tazi, Maâmora, Rabat, Kénitra; Ramdani 1997, **AP**, Skhirat, Tamaris; Handaq 1998, **AP**, Zemamra, **MA**, Béni Mellal, **HA**, Oukaïmeden, Amizmiz, Tiguenziouine, Marrakech, Sidi Bou Othmane, Seguart-Kelaâ, Had Mhara, Aïn Äounate, Bengrir; Himmi et al. 1998, **AP**, Sidi Boughaba, Dayat d'El Menzeh (north east of Kénitra), Gharb; Alaoui Slimani 2002, **AP**, Rabat; Trari et al. 2002; Himmi 2007, **Rif**, Bab Berred, Tanakoub, **AP**, Skhirate, forest of Maâmora, Chiahna, Sidi Amira, Sidi Boughaba, Bouknadel, Sidi Azzouz, Ehssaïne, Bettana, Sidi Yahia, Sebbah, Larouaza, Douar Elarja, Douar Jdid, Douar Jnaja; Faraj et al. 2008b, **AP**, Larache Louamra; El Ouali Lalami et al. 2010a, **AP**, Boucharen; Larhballi et al. 2010, **MA**, Roumani, Aïn Sbite, Ezzhiliga, Oulmès, Tarmilate, M'rirt, Bni Ounzar, Ganzra (Khémisset); Hadji et al. 2013, **AP**, Sidi yahia du Gharb, Kcebia, Sidi Hagouch, Dar Belamri (Sidi Slimane); El Joubari et al. 2014, **Rif**, Smir lagoon; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017; Mouatassef et al. 2019, **MA**, Fès

*Culex (Maillotia) deserticola* Kirkpatrick, 1925

Gaud 1947c, **AA**, Tansikht; Gaud 1953a, **EM**, Figuig, Berguent, Anoual, Boudnib, Aïn Chair, Aoufous, Tarhit, **HA**, Tazenakht, Tichka, Tizi-n'Telghemt, **AA**, Ouarzazate, Zagora; Bailly-Choumara 1965c, **EM**, Oued Isker, El Megrinat, Taskala, Aïn Aït Delouine, Talmesdourt, Aouinet Torkoz, Bouanama, Rich Tamlougout, Assa, **AA**, Taфраout ville, Oued Jemâa Idaousmaal, Aït abdallah, Issedrim Igmur Igues, **SA**, Vallée de l'Oued Assaka, Tacharicht, Bou Izakarn, Aïn Erkha; Chlaida and Bouzidi 1995, **AP**, Sud de Settât; Himmi et al. 1995; Chlaida 1997, **AP**, Barrage Al Massira; Dakki 1997; Trari et al. 2002; Himmi 2007; El Ouali Lalami et al. 2010a, **MA**, Fès; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Culex (Maillotia) hortensis* Ficalbi, 1889

Charrier 1924, **Rif**, Tanger; Séguy 1930a; Langeron 1938, **HA**, Tounfite; Calot 1940, **HA**, Anefgou (2500 m), Tirghist (2500 m), Tighermine (2500 m); Gaud 1953a, **HA**, Tizi-n'Telghemt, Tizi-n'Tichka; Bailly-Choumara 1967a, **MA**, piste tafelchna-Znan Imes, Khénifra, piste Tafelchna-Senoual-Itzer, Ajdir, Itzer, Ghorm El Alem, El Ksiba, piste Ksiba-Naour, Piste Naour-Arbala, piste Arbala-El Kbab, Zouia Cheikh, Oued Sarif, Ifrane, Boulmane, Imilchil; Bailly-Choumara 1967b, **EM**, Taфраout, Grotte du Zegzel; Bailly-Choumara 1967c, **Rif**, Chaouen ville, route Chaouen-Bab Taza, Bab Taza, piste Bab Taza-Fifi, piste Bab Taza-Talassemtane, piste Bab Taza-Béni Ahmed, route Bab Taza-Bab Berred, piste Bab Berred-Tamorote, route Bab Berred-Ketama, Ketama, piste Ketama-Mt Tiguidin, route nationale Jebha, route Targuist-Béni Boufrah, Trari 1991, **AP**, Gharb; El Bermaki 1993, **AP**, Casablanca; Himmi et al. 1995; Louah 1995, **Rif**, Riffien, Marina Smir, M'diq, Oued Maleh, Lajour, Tahaddart, Schroda, Talembote, Bab Berred, Punta Cirres, Sidi Kankoch, Oued kbir, Oued Jebel Lehbib; Louah et al. 1995; Chlaida and Bouzidi 1995, **AP**, Barrage Al Massira; Chlaida 1997, **AP**, Barrage Al Massira; Dakki 1997; Ramdani

1997, **AP**, Skhirat, Tamaris; Handaq 1998, **HA**, Amizmiz, Sidi Bou Othmane, Had Mhara, Bengrir; Trari et al. 2002; Himmi 2007, **Rif**, Bab Berred, Bab Taza, **AP**, Skhirate; El Ouali Lalami et al. 2010b, **MA**, Oued Fès, Oued El Himmer, Camping Sidi Harazem; Larhbali et al. 2010, **MA**, Merchouch, Ghoualem, Ezzhiliga, Oulmès, Tarmilate, M'rirt, Bni Ounzar, Ganzra (Khémisset); El Ouali Lalami 2012, **MA**, Oued Fès; Oued El Himmer, route de Sidi Harazem, Camping Sidi Harazem; Hadji et al. 2013, **AP**, Sidi Yahia du Gharb, Kcebia, Sidi Hagouch, Dar Belamri, Lalla Itto, Soualem (Sidi Slimane); Trari 2017; Trari and Dakki 2017b; Trari et al. 2017; Mouatasssem et al. 2019, **MA**, Fès

*Culex (Neoculex) impudicus* Ficalbi, 1890

Charrier 1924, **Rif**, Tanger; Séguy 1930a; Bailly-Choumara 1966, **AA**, Taliouine; Bailly-Choumara 1967a, **MA**, route Azrou-Khénifra, piste Tafelna-Senoual-Itzer, Itzer, piste Naour-Arbala, Zaouia Cheikh, Pont Tarmilate; Bailly-Choumara 1967b, **EM**, route Itzer-Midelt, Cascade Oued Za, Grotte du Zegzel; Bailly-Choumara 1967c, **Rif**, Chaouen ville, route Chaouen-Bab Taza, piste Bab Taza-Fifi, piste Bab Taza-Talassemtane, piste Bab Taza-Béni Ahmed, route Bab Taza-Bab Berred, piste Bab Berred-Asifane, piste Bab Berred-Tamorote, Ketama, route nationale Jebha, Al Hoceima Club Med, Targuist et environs; Trari 1991, **AP**, Sidi Amira, El Menzeh, Oued Sebou, Sidi Yahia du Gharb, Moulay Bousselham, Larache, Bordure Oued Loukous; Dakki 1997; Himmi et al. 1998, **AP**, Sidi Boughaba, Dayat d'El Menzeh (north east of Kénitra), Puits de Sidi Amira (forest of Maâmora); Trari et al. 2002; Himmi 1991, **AP**, Sidi Boughaba, El Menzeh, Sidi Amira; Himmi et al. 1995; Louah 1995, **Rif**, Haidra, Marina Smir, Tahaddart, Tanger; Louah et al. 1995; Ramdani 1997, **AP**, Tamaris; Alaoui Slimani 2002, **AP**, Rabat; Himmi 2007, **Rif**, Bab Berred, Bab Taza, **AP**, forest Maâmora; El Ouali Lalami et al. 2010a, **MA**, Fès; El Joubari et al. 2014, **Rif**, Smir lagoon; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Culex (Neoculex) martinii* Medschid, 1930

Bailly-Choumara 1968a, **Rif**, Al Hoceima, **AP**, Sidi Yahia du Gharb, Sidi Allal Tazi, Larache, Rabat, **HA**, Marrakech, **AA**, Tiznit; Himmi et al. 1995; Louah 1995, **Rif**, Haidra, Marina Smir, Cabo Negro, Oued Maleh; Louah et al. 1995; Dakki 1997; Trari et al. 2002; Himmi 2007; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

Culisetini

***Culiseta* Felt, 1904**

*Culiseta (Allotheobaldia) longiareolata* (Macquart, 1838)

d'Anfreville 1916, **AP**, Salé; Séguy 1930a; Gaud 1947c, **AA**, Tansikht; Gaud 1953a, **HA**, Marrakech; Bailly-Choumara 1965c, **EM**, El Aïoun du Draa, Aïn Aït Delouine, Talmesdourt, Aouinet Torkoz, Rich Tamlougout, **AA**, Aït Onmar, Ouled Teima, Tiznit ville, Bounaamane, Id Baha, Tafnidilt, Guelta Zerga,

- Aïn Kerma, Taфраout ville, Oued Jemâa Idaousmaal, Toudi, Aït Abdallah, Ig-herm, Issedrim Igmur Igues, **SA**, Goulimine ville, Poste militaire de Boujrif, Embouchure de l'Oued Assaka, Ouaroun, Labyar, Asrir, Tacharicht, Bou Iza-karn ville, Jemâa N'Tirhirte, Aït Erkha, Tantan ville; Bailly-Choumara 1966, **AA**, Aït melloul, Tiznit; Bailly-Choumara 1967a, **MA**, Jnane Imasse, Khénifra, piste Tafetchna-Senoual-Itzer, Itzer, Ghorm El Alem, El ksiba, piste Naour-Ar-bala, Ifrane, Pont Tarmilate, Imouzzar Marmoucha; Bailly-Choumara 1967b, **EM**, Taфраout, Guercif ville, Grotte du Zegzel, Berguent, Tendrara; Bailly-Choumara 1967c, **Rif**, Chaouen ville, route Chaouen-Bab Taza, Bab Taza, route Bab Taza-Bab Berred, route Ketama-Targuist, route nationale Jebha, Tar-guist et environs, Aïn Hamra; Bailly-Choumara 1968a, **AP**, Meja Bokka, **AA**, Tiznit; Himmi 1991, **AP**, Sidi Boughaba, El Menzeh; Trari 1991, **AP**, El Men-zeh, Gharb; El Bermaki 1993, **AP**, Sidi Maârouf; Himmi et al. 1995; Louah 1995, **Rif**, Fnideq, Riffien, Marina Smir, M'diq, Cabo Negro, Lajour, Ouadras, Punta Cirres, Ksar Sghir, Tanger; Louah et al. 1995; Mestari 1997, **AP**, Mo-hammedia; Moussalim 1997, **AP**, Maâmora, Fouarate; Ramdani 1997, **AP**, Témara, Skhirat, Tamaris; Dakki 1997; Handaq 1998, **HA**, Marrakech, Kelaâ Sraghna, Bengrir Himmi et al. 1998, **AP**, Sidi Boughaba, Dayat d'El Menzeh (north east of Kénitra); Bouallam 2001, **HA**, Bordure Oued N'fis; Alaoui Sli-mani 2002, **AP**, Rabat; Trari et al. 2002; Aouinty et al. 2006, **AP**, Mohamme-dia; Himmi 2007, **Rif**, Bab Berred, **AP**, Skhirate, Maâmora, forest of Hilton; Koçak and Kemal 2013; El Joubari et al. 2014, **Rif**, Smir lagoon; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017; Mouatassem et al. 2019, **MA**, Fès
- Culiseta (Culicella) fumipennis* (Stephens, 1825)  
Gaud 1947c, **AP**, Rabat, Sidi Allal Tazi, **MA**, Khémisset; Senevet and Andarel-li 1959, **AP**, Rabat, Casablanca, Bouznika, **MA**, Fès; Bailly-Choumara 1967a, **MA**, Jnane Imasse; Bailly-Choumara 1967c, **Rif**, route Bab Taza-Bab Berred; Himmi et al. 1995; Dakki 1997; Trari et al. 2002; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017
- Culiseta (Culicella) litorea* (Shute, 1928)  
Metge 1986, **AP**, Casablanca; Dakki 1997; Carles-Tolrá 2002; Trari et al. 2002; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017
- Culiseta (Culiseta) annulata* (Schränk, 1776)  
d'Anfreville 1916, **AP**, Salé; Charrier 1924, **Rif**, Tanger; Séguy 1930a, **Rif**, Tanger; Viamonte and Ramirez 1946, **Rif**, Ben Karrich, Asilah, Ketama, Mala-liene, Tétouan, **AP**, Larache; Gaud 1952, **AP**, Souk El Hadd (Gharb); Gaud 1953a, **Rif**, Tanger, Tétouan, **EM**, Saidia, Talsint, **AP**, Casablanca, Rabat, Ké-nitra, **MA**, Meknès, Fès, Ifrane, Taza, **HA**, Marrakech, Aït Bouguemez, Midelt; Gaud 1957b, **Rif**, Tétouan, Tanger, **AP**, Sidi Allal Tazi, Rabat, Casablanca, **MA**, Meknès, Ifrane; Bailly-Choumara 1967a, **MA**, Jnane Imasse, maison forestière Ouiouane, piste Tafetchna-Senoual-Itzer, Ghorm El Alem, Zaouia Cheikh, Pont Tarmilate, Ifrane; Bailly-Choumara 1967b, **EM**, Taфраout, route Itzer-Midelt; Bailly-Choumara 1967c, **Rif**, piste Bab Taza-Talassemtane; Bail-

ly-Choumara 1972a, **AP**, Merja Sheishat; Himmi et al. 1995; Louah 1995, **Rif**, Riffien, M'diq, Tanger; Louah et al. 1995; Chlaida 1997, **AP**, Barrage Al Massira; Dakki 1997; Mestari 1997, **AP**, Mohammedia; Moussalim 1997, **AP**, Rabat; Ramdani 1997, **AP**, meseta côtière (Casablanca-Rabat); Himmi et al. 1998, **AP**, Sidi Boughaba; Himmi 1991, **AP**, Sidi Boughaba, El Menzeh; Trari 1991, **AP**, Sidi Boughaba, El Menzeh; Trari et al. 2002; Himmi 2007, **AP**, Skhirate, Maâmora, forest of Hilton, Oulja; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Culiseta (Culiseta) subochrea* (Edwards, 1921)

Gaud 1952, **AP**, Gharb; Gaud 1957b, **Rif**, Tanger, Chefchaouen, **EM**, Oujda, **AP**, Sidi Allal Tazi, Casablanca; Bailly-Choumara 1967a, **MA**, Imilchil; Bailly-Choumara 1967c, **Rif**, Ketama; Bailly-Choumara 1972a, **AP**, Merja Sheishat; Himmi 1991, **AP**, Sidi Boughaba; Trari 1991, **AP**, Sidi Boughaba; Louah 1995, **Rif**, Riffien, Tres piedras, M'diq, Cabo Negro, Oued Maleh, Tanger; Louah et al. 1995; Dakki 1997; Mestari 1997, **AP**, Mohammedia; Moussalim 1997, **AP**, Kénitra; Ramdani 1997, **AP**, Témara, Skhirat, Casablanca; Handaq 1998, **AP**, El Jadida, **HA**, Bengrir; Himmi et al. 1998, **AP**, Sidi Boughaba; Trari et al. 2002; Himmi 2007, **AP**, Skhirat, Dayet Aïn Chems, Maâmora, forest of Hilton; El Joubari et al. 2014, **Rif**, Smir lagoon; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

## Mansoniini

### *Coquillettidia* Dyar, 1905

*Coquillettidia (Coquillettidia) buxtoni* (Edwards, 1923)

Bailly-Choumara 1965a, **AP**, Merja Bokka; Bailly-Choumara 1970, **AP**, Merja Bokka; Bailly-Choumara 1972a, **AP**, Merja Sheishat (Larache); Bailly-Choumara 1973b, **AP**, Merja Bokka, Larache; Himmi et al. 1995; Trari et al. 2002; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

*Coquillettidia (Coquillettidia) richiardii* (Ficalbi, 1889)

Bailly-Choumara 1965a, **AP**, Merja Bokka; Bailly-Choumara 1967a, **MA**, Zaouia Cheikh; Bailly-Choumara 1970, **AP**, Merja Bokka; Bailly-Choumara 1972a, **AP**, Merja Sheishat (Larache); Bailly-Choumara 1973b, **AP**, Merja Bokka; Trari 1991, **AP**, Sidi Yahia du Gharb, Aïn Chouk, Merja Bargha; Himmi et al. 1995; Dakki 1997; Moussalim 1997, **AP**, Fouarate sur les bordures de la Merja; Trari et al. 2002; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

## Orthopodomyiini

### *Orthopodomyia* Theobald, 1904

*Orthopodomyia pulcripalpis* (Rondani, 1872)

Bailly-Choumara 1965b, **AP**, Maâmora; Himmi et al. 1995; Dakki 1997; Trari et al. 2002; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017

## Uranotaeniini

***Uranotaenia* Lynch Arribálzaga, 1891***Uranotaenia (Pseudoficalbia) unguiculata* Edwards, 1913

Séguy 1930a; Gaud 1953a, **HA**, Marrakech; Senevet and Andarelli 1959a, **EM**, Oujda, Berguent, Guercif, **AP**, Sidi Allal Tazi, Bouznika, Casablanca, Béni Moussa, **MA**, Oulad Massine, Meknès, Moulay Yacoub, Béni Mellal, **AA**, Ksar Mzizel, Aït Melloul; Bailly-Choumara 1965c, **EM**, Aïn Aït Delouine, Talmesdourt, Rich Tamlogout; Bailly-Choumara 1966, **AA**, Aït Ouabelli; Bailly-Choumara 1967a, **MA**, Pont Tarmilate; Bailly-Choumara 1967b, **EM**, environs de Taourirt, Madagh, Merja Boubker; Bailly-Choumara 1967c, **Rif**, route Bab Taza-Bab Berred, piste Ketama-Jebel Tidighine; Bailly-Choumara 1968a, **AP**, Oued Loukous, Merja Bokka, Kénitra, Oued Bou-Regreg; Himmi 1991, **AP**, Sidi Boughaba; Trari 1991, **AP**, Oued Sebou; El Bermaki 1993, **AP**, El Oulfa (Casablanca); Himmi et al. 1995; Dakki 1997; Ramdani 1997, **AP**, Tamaris; Handaq 1998, **AP**, Sidi Bennour, **HA**, Zima Chemaïa (Bengrir); Trari et al. 2002; Himmi 2007, **AP**, Sidi Boughaba; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017; Mouatassem et al. 2019, **MA**, Fès

*Uranotaenia (Uranotaenia) balfouri* Theobald, 1904

Bailly-Choumara 1968a, **AP**, Merja Bokka, Oued Loukous, Sidi Yahia, Oued Sebou (Kénitra), Oued Bou-Regreg; Himmi et al. 1995; Dakki 1997; Mousalim 1997, **AP**, Sidi Allal Tazi, Fouarate, Sidi Boughaba; Trari et al. 2002; Himmi 2007, **AP**, Sidi Boughaba; El Ouali Lalami et al. 2010a, **MA**, Fès Boulmane; Trari 2017; Trari and Dakki 2017b; Trari et al. 2017; Mouatassem et al. 2019, **MA**, Fès

**DIXIDAE**

K. Kettani, R. Wagner

Number of species: **12**. Expected: 15

Faunistic knowledge of the family in Morocco: moderate

***Dixa* Meigen, 1818***Dixa caudatula* Séguy, 1928

Séguy 1930a, **HA**, Arround, Skoutana (2400 m); Vaillant 1959; Dakki 1997; Mouna 1998

*Dixa dilatata* Strobl, 1900= *Dixa riparia* Vaillant, in Vaillant 1959: 180

Vaillant 1959, **HA**, Source de M'Goum (2500 m), Gorges d'Imi-N'Ifri (1050 m); Vaillant 1965; Dakki 1997

*Dixa maculata* Meigen, 1818

Séguy 1930a; Dakki 1997; Mouna 1998

*Dixa mera* Séguy, 1930

Séguy 1930a, **MA**, forest of Timelilt (1900 m); Vaillant 1959; Dakki 1997; Mouna 1998

*Dixa nebulosa* Meigen, 1830

Séguy 1930a, **HA**; Dakki 1997; Mouna 1998

*Dixa perexilis* Séguy, 1928

Séguy 1930a, **HA**, riverside of Oued Imminen (Tachdirt, 2400 m); Vaillant 1959; Dakki 1997; Mouna 1998

*Dixa puberula* Loew, 1849

Vaillant 1959, **HA**, headwaters of Asif M'Goum (2500 m); Vaillant 1965; Dakki 1997; Mouna 1998

*Dixa submaculata* Edwards, 1920

Séguy 1930a, **MA**, Sidi Yahia, Talzent (1800 m); Dakki 1997; Mouna 1998

***Dixella* Dyar & Shannon, 1924***Dixella aestivalis* (Meigen, 1818)

Séguy 1930a, **AP**, Merja Boughaba; Vaillant 1965; Ramdani 1981; Ramdani and Tourenq 1982; Mouna 1998

*Dixella attica* (Pandazis, 1933)

= *Dixella numidica* (Sicart, 1955)

Ebejer et al. 2019, **Rif**, Cabo Negro (indoors: 10 m)

*Dixella martinii* (Peus, 1934)

Ebejer et al. 2019, **Rif**, Moulay Abdelsalam (965 m)

*Dixella serotina* (Meigen, 1818)

= *Dixa serotina* Wied, in Mouna 1998: 85

Séguy 1930a, **AP**, Casablanca (between Kénitra and Oued Beth); Dakki 1997; Mouna 1998

## Chironomoidea

**CERATOPOGONIDAE**

K. Kettani, B. Mathieu

Number of species: **62**. Expected: 80

Faunistic knowledge of the family in Morocco: moderate

## Ceratopogoninae

## Culicoidini

***Culicoides* Latreille, 1809***Culicoides* (*Avaritia*) *imicola* Kieffer, 1913

Kremer et al. 1971, **MA**, Fès-Meknès, **SA**, Guelmim-Oued Noun; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **SA**, Guelmim-Oued Noun; Chaker et al. 1980, **MA**, Fès, Rhafsai, **AA**, Torkoz, Tarhjisht; Remm 1988a;

Dakki 1997; Bouayoune et al. 1998, **Rif**, Tanger-Tétouan-Al Hoceima, **EM**, Oriental, **AP**, Rabat-Salé-Kénitra, Safi, **MA**, Fès-Meknès, Béni Mellal-Khénifra, **HA**, Marrakech, **AA**, Draa-Tafilalet, Souss-Massa, **SA**, Guelmim-Oued Noun; Cêtre-Sossah and Baldet 2004, **AP**, Rabat-Salé-Kénitra; Lhor et al. 2015, **Rif**, Sahel Chamali, **MA**, Sidi Hammadi, Benioukil, Aïn Leuh, Ait Siberne, Meknès, **AA**, Errachidia, Sidi Dahmane, **SA**, Foug El Oued; Bourquia et al. 2019, **AP**, Rabat

*Culicoides (Avaritia) montanus* Shakirzjanova, 1962

Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra, Safi, **HA**, Marrakech, **SA**, Guelmim-Oued Noun; Kremer et al. 1975; Kremer et al. 1979, **Rif**, Tanger-Tétouan-Al Hoceima, **AP**, Safi, **HA**, Marrakech; Chaker et al. 1980, **Rif**, Al Hoceima, **AP**, Oued Cherrat, **HA**, Souk Tnine de Oudaias (Haouz), Marrakech, **AA**, Torkoz; Remm 1988a; Dakki 1997; Bourquia et al. 2019, **AP**, Rabat

*Culicoides (Avaritia) obsoletus* (Meigen, 1818)

Callot et al. 1968, **Rif**, Al Hoceima, **AP**, Merja Bokka, Sidi Yahia du Gharb, Sidi-Bettache (Zaeir), Rabat-Salé-Kénitra, **HA**, El Harcha (plateau central); Bailly-Choumara and Kremer 1970, **AP**, estuaire de Bou-Regreg; Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra, Safi, **MA**, Béni Mellal-Khénifra, **HA**, Marrakech; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **Rif**, Tanger-Tétouan-Al Hoceima, **AP**, Rabat-Salé-Kénitra, Casablanca, Settati, Safi, **HA**, Marrakech; Chaker et al. 1980, **Rif**, Al Hoceima, **AP**, Zaers, Sidi Bettache, **HA**, El Harcha, Talet Inaouane (Haouz); Remm 1988a; Dakki 1997; Bouayoune et al. 1998, **Rif**, Tanger-Tétouan-Al Hoceima, **AP**, Rabat-Salé-Kénitra, Casablanca, Settati, Safi, **MA**, Fès-Meknès, Béni Mellal-Khénifra, **HA**, Marrakech, **AA**, Souss-Massa, **SA**, Guelmim-Oued Noun; Cêtre-Sossah and Baldet 2004; Lhor et al. 2015, **Rif**, Sahel Chamali, **MA**, Ait Siberne; Bourquia et al. 2019, **AP**, Rabat

*Culicoides (Avaritia) scoticus* Downes & Kettle, 1952

Kremer et al. 1971, **AP**, Safi, **MA**, Béni Mellal-Khénifra, **HA**, El Harcha, Talet Inaouane (Haouz), Marrakech; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **AP**, Casablanca-Settat, Safi, **HA**, Marrakech; Remm 1988a; Dakki 1997; Bourquia et al. 2019, **AP**, Rabat

*Culicoides (Beltranmyia) circumscriptus* Kieffer, 1918

Callot et al. 1968; Bailly-Choumara and Kremer 1970, **Rif**, Smir lagoon, Oued Negro, **EM**, Merja Boubker (Berkane), Gouttitir (NE Guercif), **AP**, Merja Sheishat (Larache), Aïn Muelha (near Oued Sidi Allal Tazi, estuaire Oued Bou-Regreg, Dayat Qoudiya (Sidi Yahia Gharb); Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra, Casablanca, Settati, Safi, **MA**, Fès-Meknès, **HA**, Marrakech, **SA**, Guelmim-Oued Noun; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **Rif**, Tanger-Tétouan-Al Hoceima, **AP**, Rabat-Salé-Kénitra, Casablanca, Settati, Safi, **MA**, Fès-Meknès, **AA**, Souss Massa; Chaker et al. 1980, **Rif**, Al Hoceima, **AP**, Merja Qoudiya, Merja Bokka, Sidi Yahia du Gharb, **MA**, Aïn Karma (Saiss), Oulmès, **HA**, Setti Fatma, **AA**, Aït Melloul



(Souss); Dakki 1997; Cêtre-Sossah and Baldet 2004, **AP**, Rabat-Salé-Kénitra; Lhor et al. 2015, **Rif**, Sahel Chamali, **MA**, Sidi Hammadi, Benioukil, Meknès, **AA**, Errachidia, **SA**, Foug El Oued; Bourquia et al. 2019, **AP**, Rabat

*Culicoides (Culicoides) fagineus* Edwards, in Edwards et al. 1939

Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra, Safi, **MA**, Béni Mellal-Khénifra, **HA**, Marrakech; Kremer et al. 1975; Chaker et al. 1979, **AP**, Rabat-Salé-Kénitra; Kremer et al. 1979; Chaker et al. 1980, **AP**, Rabat, Sidi Bettache, **MA**, Khemisset, **HA**, Marrakech; Remm 1988a; Dakki 1997; Bourquia et al. 2019, **AP**, Rabat

*Culicoides (Culicoides) newsteadi* Austen, 1921

= *Culicoides (Culicoides) halophilus* Kieffer, in Callot et al. 1968: 886, Bailly-Choumara and Kremer 1970: 386, Dakki 1997: 60

Callot et al. 1968, **Rif**, Cabo Negro (Ferma), Tétouan, Talerhza, Tanger-Tétouan-Al Hoceima, **AP**, Larache, Merja Bokka (Gharb), Aïn Chok, **HA**, Talet-Inaouan (Haouz); Bailly-Choumara and Kremer 1970, **Rif**, Smir lagoon, Oued Negro, **AP**, Merja Sheishat (Larache), Aïn Muelha (near Oued Sidi Allal Tazi, estuaire Oued Bou-Regreg, Dayat Qoudiya (Sidi Yahia du Gharb), **EM**, Merja Boubker (Berkane), Ksabi (NE Midelt), **HA**, Souk Tnine des Oudaïas (bordure Oued N'fis), **AA**, Aïn Sefra (south Foug Zquid); Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra, Casablanca, Settât, **MA**, Fès-Meknès, Béni Mellal-Khénifra, **SA**, Guelmim-Oued Noun; Kremer et al. 1975; Chaker et al. 1979, **Rif**, Tanger-Tétouan-Al Hoceima, **AP**, Rabat-Salé-Kénitra, Safi, Casablanca, Settât, **MA**, Béni Mellal-Khénifra, **HA**, Marrakech; Kremer et al. 1979; Baylis et al. 1997, **Rif**, Tanger, **HA**, Marrakech; Remm 1988a; Dakki 1997; Cêtre-Sossah and Baldet 2004, **AP**, Rabat-Salé-Kénitra; Lhor et al. 2015, **MA**, Aïn Leuh, Ait Siberne, Meknès, **SA**, Foug El Oued; Bourquia et al. 2019, **AP**, Rabat

*Culicoides (Culicoides) pulicaris* (Linnaeus, 1758)

Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra, **MA**, Fès-Meknès, Béni Mellal-Khénifra, **SA**, Guelmim-Oued Noun; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **AP**, Rabat-Salé-Kénitra, Safi, **HA**, Marrakech, **SA**, Guelmim-Oued Noun; Chaker et al. 1980, **MA**, Lalla Outka, Khénifra, Oulmès, **HA**, Talet Inaouan (Haouz), **AA**, Aouinet-Torkoz, Tarhjicht; Remm 1988a; Dakki 1997; Bouayoune et al. 1998, **Rif**, Tanger-Tétouan-Al Hoceima, **EM**, Oriental, **AP**, Rabat-Salé-Kénitra, Casablanca, Settât, Safi, **MA**, Fès-Meknès, Béni Mellal-Khénifra, **HA**, Marrakech, **AA**, Drâa-Tafilet, Souss-Massa; Cêtre-Sossah and Baldet 2004; Lhor et al. 2015, **Rif**, Sahel Chamali, **MA**, Aïn Leuh, Ait Siberne, Meknès; Bourquia et al. 2019

*Culicoides (Culicoides) punctatus* (Meigen, 1804)

Callot et al. 1968, **Rif**, Tanger-Tétouan-Al Hoceima; Bailly-Choumara and Kremer 1970, **Rif**, Merja Smir, Oued Negro, **AP**, Merja Sheishat (Larache), estuaire Bou-Regreg, **EM**, Merja Boubker (Berkane); Kremer et al. 1971, **Rif**, Cabo Negro (Ferma), Tétouan, **EM**, Berkane, **AP**, Rabat-Salé-Kénitra, **MA**, Fès-Meknès, **AA**, Foug Zquid; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979,

- AP**, Casablanca-Settat; Dakki 1997; Lhor et al. 2015, **Rif**, Sahel Chamali, **MA**, Sidi Hammadi, Benioukil, Aïn Leuh, Meknès; Bourquia et al. 2019
- Culicoides (Culicoides) subfagineus* Delécolle & Ortega, 1998  
Bourquia et al. 2019, **AP**, Rabat
- Culicoides (Monoculicoides) parroti* Kieffer, 1922  
Bailly-Choumara and Kremer 1970, **HA**, Dar Saâda (Haouz); Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra; Kremer et al. 1975; Kremer et al. 1979, **AP**, Safi, **HA**, Marrakech; Chakeret al. 1980, **AP**, Rabat, **HA**, Marrakech, Souk Tnine des Oudaias (Haouz); Remm 1988a; Dakki 1997; Bourquia et al. 2019
- Culicoides (Monoculicoides) puncticollis* (Becker, 1903)  
Callot et al. 1968, **AP**, Merja Qoudiya, Sidi Yahia du Gharb, Romani (Zaers), Rabat-Salé-Kénitra, **MA**, Aïn Karma (Saiss), **HA**, Souk Tnine des Oudaias (Haouz); Bailly-Choumara and Kremer 1970 (reported as *C. riethi* and corrected by Kremer et al. 1971), **Rif**, Merja Smir, **AP**, Merja Sheishat (Larache), estuaire Bou-Regreg, Dayat Qoudiya (Sidi Yahia du Gharb), **HA**, Souk Tnine des Oudaias (bordure de l'Oued N'fis), Dar Saâda (Haouz), Talet Inouane (bordure marécageuse du lac du Barrage Lalla Taguergoust); Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra, **MA**, Fès-Meknès; Kremer et al. 1975; Kremer et al. 1979, **AP**, Rabat-Salé-Kénitra, Safi, **MA**, Fès-Meknès, **HA**, Marrakech; Chaker et al. 1980, **AP**, Aïn Karma, Zaers, Roumani, **HA**, Souk-Tnine des Oudaias; Remm 1988a; Cêtre-Sossah and Baldet 2004, **AP**, Rabat-Salé-Kénitra; Bourquia et al. 2019, **AP**, Rabat
- Culicoides (Oecacta) azerbaijdzhanicus* Dhzafarov, 1962  
Bailly-Choumara and Kremer 1970, **HA**, Souk Tnine des Oudaias (bordure Oued N'fis); Kremer et al. 1971, **AP**, Safi, **MA**, Fès-Meknès, Beni Mellal-Khénifra, **HA**, Marrakech, **SA**, Guelmim-Oued Noun; Kremer et al. 1975; Kremer et al. 1979, **AA**, Souss-Massa **SA**, Guelmim-Oued Noun; Chaker et al. 1980, **MA**, Kkénifra, Rhafsai, **HA**, Marrakech, **AA**, Torkoz, Tarhjisht; Dakki 1997; Bourquia et al. 2019
- Culicoides (Oecacta) longipennis* Khalaf, 1957  
Kremer et al. 1971, **EM**, Berkane **AP**, Safi, **MA**, Fès-Meknès, **HA**, Marrakech; Kremer et al. 1975; Remm 1988a; Dakki 1997; Bourquia et al. 2019, **AP**, Rabat
- Culicoides (Oecacta) marcreti* Callot, Kremer & Basset, 1968  
Kremer et al. 1971, **MA**, Rhafsai, Fès-Meknès, **SA**, Guelmim-Oued Noun; Kremer et al. 1975; Remm 1988a; Dakki 1997; Bourquia et al. 2019
- Culicoides (Oecacta) pallidus* Khalaf, 1957  
= *Culicoides stackelbergi* Dhzafarov, in Kremer et al. 1971: 662, Dakki 1997: 61  
Kremer et al. 1971, **AA**, Torkoz, **SA**, Guelmim-Oued Noun; Kremer et al. 1971; Remm 1988a; Dakki 1997; Bourquia et al. 2019
- Culicoides (Oecacta) ravus* De Meillon, 1936  
= *Culicoides (Synhelea) subravus* Cornet and Château, in Kremer et al. 1971: 664, Chaker et al. 1980: 85, Dakki 1997: 61

- Kremer et al. 1971, **AP**, Safi, **HA**, Marrakech, **SA**, Guelmim-Oued Noun; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **AA**, Souss-Massa, **SA**, Guelmim-Oued Noun; Chaker et al. 1980, **HA**, Marrakech, **AA**, Torkoz, Tarhjicht, Aït Ouaballi (Draa); Remm 1988a; Dakki 1997; Bourquia et al. 2019
- Culicoides (Oecacta) sahariensis* Kieffer, 1923  
 = *Culicoides colluzzii* Callot, Kremer and Bailly-Choumara, in Bailly-Choumara and Kremer 1970: 386, Chaker et al. 1980: 83, Dakki 1997: 61  
 Bailly-Choumara and Kremer 1970, **AP**, Merja Sheishat (Larache), **EM**, Merja Boubker (Berkane), **HA**, Souk Tnine des Oudaias (bordure Oued N'fis); Callot et al. 1970, **AP**, Larache, **HA**, Marrakech; Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra, **MA**, Fès-Meknès, **SA**, Guelmim-Oued Noun; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **AP**, Rabat-Salé-Kénitra, **SA**, Guelmim-Oued Noun; Chaker et al. 1980, **AP**, Merja Bokka (Gharb), Rabat (Zaers), **EM**, Berkane, **MA**, Fès, Khémisset, **AA**, Tarhjisht; Baylis et al. 1997; Dakki 1997; Bouayoune et al. 1998; Cêtre-Sossah and Baldet 2004; Bourquia et al. 2019, **AP**, Rabat
- Culicoides (Oecacta) santonicus* Callot, Kremer, Rault & Bach, 1966  
 Bailly-Choumara and Kremer 1970, **AP**, Merja Sheishat (Larache); Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **AP**, Rabat-Salé-Kénitra; Bailly-Choumara et al. 1980, **AP**, Larache, Sidi Bettache, **MA**, Oulmès, **EM**, El-Harcha; Remm 1988a; Dakki 1997; Bourquia et al. 2019
- Culicoides (Oecacta) semimaculatus* Clastrier, 1958  
 Kremer et al. 1975, **Rif**, Tanger-Tétouan-Al Hoceima, **AP**, Larache, Casablanca-Settat, **MA**, Plateau Central (Khatouate); Chaker et al. 1979; Remm 1988a; Dakki 1997; Szadziwski and Dominiak 2006; Bourquia et al. 2019
- Culicoides (Oecacta) sergenti* Kieffer, 1921  
 = *Culicoides (Oecacta) mosulensis* Khalaf, in Chaker et al. 1980: 84, Dakki 1997: 60  
 Kremer et al. 1979, **EM**, Oriental, **SA**, Guelmim-Oued Noun; Chaker et al. 1980, **AA**, Tarhjicht, **SA**, Bou-Arfa; Dakki 1997; Bourquia et al. 2019
- Culicoides (Oecacta) similis* Carter, Ingram & Macfie, 1920  
 Kremer et al. 1971, **AA**, Torkoz, **SA**, Guelmim-Oued Noun; Kremer et al. 1975; Remm 1988a; Dakki 1997; Bourquia et al. 2019
- Culicoides (Oecacta) truncorum* Edwards, 1939  
 = *Culicoides (Oecacta) sylvarum* Callot and Kremer, in Kremer et al. 1971: 662, Remm 1988a: 65, Dakki 1997: 61  
 Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra, **MA**, Béni Mellal- Khénifra; Kremer et al. 1975; Remm 1988a; Dakki 1997; Bourquia et al. 2019
- Culicoides (Pontoculicoides) saevus* Kieffer, 1922  
 Callot et al. 1968, **AP**, Sidi Yahia du Gharb, Rabat-Salé-Kénitra, Safi, **MA**, Aïn Karma (Saiss), **HA**, Talet Inouane, Marrakech, Souk Tnine des Oudaias (Haouz), **AA**, Aït Melloul (Souss), Ksar er Souk (Tafilalt), Tarhjicht, **SA**, Bou-Arfa; Bailly-Choumara and Kremer 1970, **AP**, Merja Sheishat (Larache), **HA**,

- Souk Tnine des Oudaias (bordure de l'Oued N'fis); Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra, **MA**, Fès-Meknès **SA**, Guelmim-Oued Noun; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **EM**, Oriental, **AP**, Safi, **MA**, Fès-Meknès, **HA**, Marrakech, **AA**, Drâa-Tafilalet, Souss-Massa, **SA**, Guelmim-Oued Noun; Bailly-Choumara and Kremer 1980; Dakki 1997; Cêtre-Sossah and Baldet 2004, **AP**, Rabat-Salé-Kénitra; Bourquia et al. 2019
- Culicoides (Pontoculicoides) sejfadinei* Dzhabarov, 1958  
Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **EM**, Oriental, **AA**, Drâa-Tafilalet; Bourquia et al. 2019
- Culicoides (Remmia) kingi* Austen, 1912  
Bailly-Choumara and Kremer 1970, **AA**, Mrimima (Oued de Fom Zquid), Souss-Massa; Chaker et al. 1980, **MA**, Meknès, **AA**, Tarhjisht; Cornet and Brunhes 1994; Bourquia et al. 2019, **AP**, Rabat
- Culicoides (Remmia) schultzei* (Enderlein, 1908)  
Callot et al. 1968, **AP**, Safi, **HA**, Talet Inouane, Marrakech; Dakki 1997; Bourquia et al. 2019
- Culicoides (Sensiculicoides) badooshensis* Khalaf, 1961  
Bailly-Choumara and Kremer 1970, **AP**, Merja Sheishat (Larache), **HA**, Marrakech, Souk Tnine des Oudaias; Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra, Safi, **MA**, Fès-Meknès; Kremer et al. 1975; Kremer et al. 1979, **AP**, Rabat-Salé-Kénitra, Safi, **HA**, Marrakech; Dakki 1997; Chaker et al. 1980, **AP**, Oued Cherrat, Bousselham, Sidi Yahia, **MA**, Fès, **HA**, Marrakech; Bourquia et al. 2019
- Culicoides (Sensiculicoides) cataneii* Clastrier, 1957  
Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **Rif**, Tanger-Tétouan-Al Hoceima, **AP**, Rabat-Salé-Kénitra; Chaker et al. 1980, **AP**, Oued Cherrat, Rabat; Remm 1988a; Dakki 1997; Bourquia et al. 2019, **AP**, Rabat
- Culicoides (Sensiculicoides) clastrieri* Callot, Kremer & Deduit, 1962  
Bourquia et al. 2019, **MA**, Fès-Meknès
- Culicoides (Sensiculicoides) derisor* Callot & Kremer, 1965  
Chaker et al. 1980, **AP**, Rabat; Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra, **MA**, Fès-Meknès; Kremer et al. 1975; Chaker et al. 1979, **AP**, Rabat-Salé-Kénitra; Kremer et al. 1979; Remm 1988a; Dakki 1997; Bourquia et al. 2019
- Culicoides (Sensiculicoides) duddingstoni* Kettle & Lawson, 1955  
Bourquia et al. 2019, **MA**, Fès-Meknès
- Culicoides (Sensiculicoides) dzhabarovi* Remm, 1967  
Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **SA**, Guelmim-Oued Noun; Chaker et al. 1980, **AP**, Oued Cherrat, **AA**, Tarhjisht; Remm 1988a; Dakki 1997; Bourquia et al. 2019
- Culicoides (Sensiculicoides) festivipennis* Kieffer, 1914  
= *Culicoides (Oecacta) odibilis* Austen, in Bailly-Choumara and Kremer 1970: 387, Chaker et al. 1980: 84, Dakki 1997: 61

- Callot et al. 1968, **Rif**, Tanger-Tétouan-Al Hoceima; Bailly-Choumara and Kremer 1970, **Rif**, Merja Smir, **HA**, Souk Tnine des Oudaias (bordure Oued N'fis); Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **Rif**, Tanger-Tétouan-Al Hoceima, **AP**, Rabat-Salé-Kénitra, Safi, Casablanca-Settat, **HA**, Marrakech; Chaker et al. 1980, **Rif**, Tétouan, **EM**, El-Harcha, **AP**, Aïn Chok, Rabat, Larache, **MA**, Oulmès, **HA**, Marrakech, Talet-Inaouan (Haouz); Dakki 1997; Cêtre-Sossah and Baldet 2004, **AP**, Rabat-Salé-Kénitra; Bourquia et al. 2019, **AP**, Rabat
- Culicoides (Sensiculicoides) heteroclitus* Kremer and Callot, in Callot & Kremer, 1965  
Kremer et al. 1975, **AP**, Safi, **HA**, Marrakech, **AA**, Tafraout, Tiznit, Souss-Massa; Chaker et al. 1979; **HA**, Haouz; Remm 1988a; Dakki 1997; Bourquia et al. 2019
- Culicoides (Sensiculicoides) jumineri* Callot & Kremer, 1969  
Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra, **MA**, Fès-Meknès, **SA**, Guelmim-Oued Noun; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **EM**, Oriental, **AP**, Rabat-Salé-Kénitra, Safi, **HA**, Marrakech, **AA**, Souss-Massa, **SA**, Guelmim-Oued Noun; Chaker et al. 1980, **AP**, Oued Cherrat, Merja Bokka, Rabat, **MA**, Fès, **HA**, Talet-Inaouan (Haouz), **AA**, Torkoz, Tarhjisht, Aït Oubelli, **SA**, Bou-Arfa; Remm 1988a; Dakki 1997; Cêtre-Sossah and Baldet 2004, **AP**, Rabat-Salé-Kénitra; Bourquia et al. 2019, **AP**, Rabat
- Culicoides (Sensiculicoides) kibunensis* Tokunaga, 1937  
= *Culicoides (Oecata) cubitalis* Edwards, in Kremer et al. 1975: 205, Dakki 1997: 60  
Kremer et al. 1975, **AP**, Safi, **MA**, Ifrane, Imouzzet-du-Kander, Fès-Meknès, **HA**, Haouz, Marrakech; Chaker et al. 1979; Dakki 1997; Bourquia et al. 2019
- Culicoides (Sensiculicoides) kurensis* Dzhafarov in Gutsevich, 1960  
Remm 1988a; Cêtre-Sossah and Baldet 2004, **AP**, Rabat-Salé-Kénitra; Bourquia et al. 2019
- Culicoides (Sensiculicoides) landauae* Kremer, Rebholtz-Hirtzel & Bailly-Choumara, 1975  
Kremer et al. 1975, **MA**, Imouzzet-du-Kander, Sefrou, Fès-Meknès; Chaker et al. 1979; Hervy et al. 1994; Borkent and Wirth 1997; Remm 1988a; Dakki 1997; Chilasse and Dakki 2004, **MA**; Borkent 2012; Bourquia et al. 2019
- Culicoides (Sensiculicoides) langeroni* Kieffer, 1921  
Bailly-Choumara and Kremer 1970, **HA**, Tnine des Oudaias (bordure de Oued N'fis); Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra; Kremer et al. 1975; Kremer et al. 1979; Bailly-Choumara and Kremer 1980, **MA**, Khénifra, **AA**, Tarhjisht, Torkoz (Draa); Dakki 1997; Bourquia et al. 2019
- Culicoides (Sensiculicoides) maritimus* Kieffer, 1924  
Bailly-Choumara and Kremer 1970, **AP**, estuaire de Bou-Regreg; Kremer et al. 1971, **Rif**, Tanger-Tétouan-Al Hoceima, **AP**, Rabat-Salé-Kénitra; Kremer et al. 1975; Kremer et al. 1979; Bailly-Choumara and Kremer 1980, **Rif**,

- Tétouan, **AP**, Larache, Rabat, Sidi Bettache, **HA**, Talet-Inaouan (Haouz), Souk Tnine des Oudaias (Haouz); Remm 1988; Dakki 1997; Bourquia et al. 2019
- Culicoides (Sensiculicoides) odiatus* Austen, 1921  
 = *Culicoides lailae* Khalaf, in Bailly-Choumara and Kremer 1970: 387, Dakki 1997: 60  
 = *Culicoides indistinctus* Khalaf, in Kremer et al. 1975: 206, Dakki 1997: 60  
 Bailly-Choumara and Kremer 1970, **HA**, Tnine des Oudaias (bordure de Oued N'fis); Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra, **MA**, Fès-Meknès, **AA**, Torkoz, **SA**, Guelmim-Oued Noun; Kremer et al. 1975, **AA**, Tafraout, Souss-Massa; Kremer et al. 1979; Chaker et al. 1979, **AP**, Rabat-Salé-Kénitra, Safi, **HA**, Marrakech, **SA**, Guelmim-Oued Noun; Chaker et al. 1980, **AP**, Kénitra, Merja Bokka (Gharb), **HA**, Souk Tnine des Oudaias (Haouz), **AA**, Tarhjicht; Remm 1988a; Dakki 1997; Baylis et al. 1997; Bouayoune et al. 1998; Cêtre-Sossah and Baldet 2004, **AP**, Rabat-Salé-Kénitra; Sarvašová et al. 2014; Bourquia et al. 2019
- Culicoides (Sensiculicoides) paolae* Boorman, 1996  
 Bourquia et al. 2019, **AP**, Rabat
- Culicoides (Sensiculicoides) pictipennis* (Staeger, 1839)  
 Bailly-Choumara and Kremer 1970, **AP**, estuaire de Bou-Regreg; Kremer et al. 1971; Remm 1988a; Bourquia et al. 2019, **AP**, Rabat
- Culicoides (Sensiculicoides) pseudopallidus* Khalaf, 1961  
 Bailly-Choumara and Kremer 1970, **HA**, Souk Tnine des Oudaias (bordure Oued N'fis); Kremer et al. 1971, **AP**, Safi, **MA**, Rhafsai, Fès-Meknès, **HA**, Marrakech; Kremer et al. 1975; Remm 1988a; Dakki 1997; Bourquia et al. 2019
- Culicoides (Sensiculicoides) shaklawensis* Khalaf, 1957  
 Kremer et al. 1975, **AP**, Safi, **MA**, Sefrou, Fès-Meknès, **HA**, Setti Fatma, Marrakech; Chaker et al. 1979; Remm 1988a; Dakki 1997; Bourquia et al. 2019
- Culicoides (Sensiculicoides) simulator* Edwards, 1939  
 Kremer et al. 1975, **MA**, Ifrane, Fès-Meknès, **HA**, Setti Fatma; Chaker et al. 1979; Dakki 1997; Bourquia et al. 2019
- Culicoides (Sensiculicoides) univittatus* Vimmer, 1932  
 = *Culicoides agathensis* Callot, Kremer and Rioux, in Bailly-Choumara and Kremer 1970: 386, Kremer et al. 1971: 663, Chaker et al. 1980: 82, Dakki 1997: 60  
 Bailly-Choumara and Kremer 1970, **AP**, estuaire Bou-Regreg; Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra, **Rif**, Tanger-Tétouan-Al Hoceima; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **Rif**, Tanger-Tétouan-Al Hoceima, **AP**, Rabat-Salé-Kénitra, Safi, **MA**, Fès-Meknès, **HA**, Marrakech; Chaker et al. 1980, **Rif**, Tétouan, **AP**, Larache, Sidi Bettache **MA**, Oulmès; Dakki 1997; Bourquia et al. 2019
- Culicoides (Sensiculicoides) vidourlensis* Callot, Kremer, Molet & Bach, 1968

- Bailly-Choumara and Kremer 1970, **AP**, Merja Sheishat (Larache), estuaire de Oued Bou-Regreg, **HA**, Souk Tnine des Oudaias (bordure de Oued N'fis); Kremer et al. 1971; Remm 1988a; Bourquia et al. 2019
- Culicoides (Silvaticulicoides) pallidicornis* Kieffer, 1919  
Bailly-Choumara and Kremer 1970, **HA**, Souk Tnine des Oudaias (bordure Oued N'fis); Kremer et al. 1971, **AA**, Torkoz, **SA**, Guelmim-Oued Noun; Dakki 1997; Balenghien et al. 2014, **SA**, Guelmim-Oued Noun; Bourquia et al. 2019
- Culicoides (Silvaticulicoides) picturatus* Kremer & Deduit, 1961  
Bailly-Choumara and Kremer 1970, **AP**, Merja Sheishat (Larache); Kremer et al. 1971, **Rif**, Talerhza, **EM**, El-Harcha, **AP**, Bousselham, Rabat-Salé-Kénitra, **MA**, Oulmès; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **AP**, Casablanca-Settat, **MA**, Béni Mellal-Khénifra; Remm 1988a; Dakki 1997; Sarvašová et al. 2014; Bourquia et al. 2019
- Culicoides (Silvaticulicoides) subfasciipennis* Kieffer, 1919  
Kremer et al. 1971, **AP**, Rabat-Salé-Kénitra, **MA**, Fès-Meknès, Béni Mellal-Khénifra; Kremer et al. 1975; Kremer et al. 1979; Chaker et al. 1979, **Rif**, Tanger-Tétouan-Al Hoceima; Bailly-Choumara and Kremer 1980, **AP**, Larache, Zaers, Rabat, Aïn Chok, **MA**, Sefrou; Remm 1988a; Hervy et al. 1994; Dakki 1997; Cêtre-Sossah and Baldet 2004, **AP**, Rabat-Salé-Kénitra; Bourquia et al. 2019
- Culicoides (Wirthomyia) faghihi* Navai, 1971  
Kremer et al. 1975, **AA**, Tafraout, Souss-Massa; Chaker et al. 1979; Remm 1988a; Hervy et al. 1994; Dakki 1997; Bourquia et al. 2019
- Culicoides (Wirthomyia) minutissimus* (Zetterstedt, 1855)  
Referred as *C. pumilus*
- Culicoides (Wirthomyia) pumilus* (Winnertz, 1852)  
Kremer et al. 1975, **AP**, Safi, **MA**, Ifrane, Imouzzer-du-Kander, Fès-Meknès, **HA**, Setti Fatma, Marrakech; Chaker et al. 1979; Dakki 1997; Bourquia et al. 2019
- Culicoides calloti* Kremer, Delécolle, Bailly-Choumara & Chaker, 1979  
Chaker et al. 1979, **AA**, Souss Massa, **SA**, Guelmim-Oued Noun; Kremer et al. 1979, **AA**, Tarhjigt, Aït Ouaballi, Souss Massa, **SA**, Guelmim-Oued Noun; Chaker et al. 1980; Remm 1988a; Hervy et al. 1994; Borkent and Wirth 1997; Baylis et al. 1997; Dakki 1997; Koçak and Kemal 2010; Borkent 2012; Bourquia et al. 2019

## Ceratopogonini

### *Alluaudomyia* Kieffer, 1913

#### *Alluaudomyia hygropetrica* Vaillant, 1954

Vaillant 1956b, **HA**, Sidi Chamarouch



## Palpomyiini

***Bezzia* Kieffer, 1899***Bezzia* (*Bezzia*) *nigritula* (Zetterstedt, 1838)= *Palpomyia tenebricosa* Goetghebuer, 1912, in Vaillant 1956b: 241Vaillant 1956b, **HA**, Tamesrit***Palpomyia* Meigen, 1818***Palpomyia helviscutellata* Borkent, in Borkent & Wirth 1997= *Dasyhelea flavoscutellata* (Zetterstedt, 1850), in Vaillant 1956b: 244Vaillant 1956b, **HA**, Tahanaout

## Forcipomyiinae

## Dasyheleini

***Dasyhelea* Kieffer, 1911***Dasyhelea* (*Prokempia*) *flaviventris* (Goetghebuer, 1910)

Dominiak 2012

*Dasyhelea* (*Pseudoculicoides*) *turficola* Kieffer, 1925

Dominiak 2012

## Leptoconopinae

***Leptoconops* Skuse, 1889***Leptoconops* (*Holoconops*) *laurae* (Weiss, 1912)

Remm 1988b

**CHIRONOMIDAE**

K. Kettani

Number of species: **412**. Expected: 600

Faunistic knowledge of the family in Morocco: good

## Buchonomyiinae

***Buchonomyia* Fittkau, 1955***Buchonomyia thienemanni* Fittkau, 1955Ashe and O'Connor 2009; Kettani et al. 2010, **Rif**, Oued Kelaâ (Akoumi, 400 m); Kettani and Langton 2012; Ashe et al. 2015, **Rif**, Oued Kelaâ (Akoumi, 400 m); Kettani and Moubayed-Breil 2018, **Rif**

## Podonominae

***Paraboreochlus* Thienemann, 1939***Paraboreochlus minutissimus* (Strobl, 1895)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012; Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)

Tanypodinae  
Macropelopiini

***Apsectrotanypus* Fittkau, 1962**

*Apsectrotanypus trifascipennis* (Zetterstedt, 1838)

Kettani et al. 2010, **Rif**, Aïn Abou Hayane (Tiouertiouane, 880 m), Oued Maggou (Maggou village, 777 m), Oued Kanar (Gorges Kanar, 280 m); Kettani and Langton 2012

***Macropelopia* Thienemann, 1916**

*Macropelopia adaucta* Kieffer, 1916

Kettani and Langton 2011, **Rif**, Fifi, Issaguen; Kettani and Langton 2012

*Macropelopia nebulosa* (Meigen, 1804)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, Oued Siflaou; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Ashe and O'Connor 2009; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

***Psectrotanypus* Kieffer, 1909**

*Psectrotanypus varius* (Fabricius, 1787)

Kettani et al. 1996; Kettani et al. 1997, **Rif**, Ras el Ma (Chefchaouen); Kettani et al. 2001; Ashe and O'Connor 2009; Kettani et al. 2010, **Rif**, Oued Tassikeste (Afechtal, 240 m); Kettani and Langton 2012

Pentaneurini

***Ablabesmyia* Johannsen, 1905**

*Ablabesmyia (Ablabesmyia) ebbae* Lehmann, 1981

Lehmann 1981; Azzouzi and Laville 1987; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012

*Ablabesmyia (Ablabesmyia) longistyla* Fittkau, 1962

El Mezdi and Giudicelli 1985, **HA**, Khetaras de Marrakech; Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, aval Barrage Talembote, aval Oued Laou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou); Kettani et al. 2001; Ashe and O'Connor 2009; Kettani et al. 2010, **Rif**, source Maggou (Maggou, 1300 m), Oued Talembote; Kettani and Langton 2012

*Ablabesmyia (Ablabesmyia) monilis* (Linnaeus, 1758)

Reiss 1977, **Rif**, Tétouan, **HA**, kranichsee (Dra-Tal); Azzouzi and Laville 1987, **Rif**, retenue El Makhazine; El Mezdi and Giudicelli 1985, **HA**, Khet-

taras de Marrakech; Naya 1988, **MA**, Haut Sebou; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012

***Conchapelopia* Fittkau, 1957**

*Conchapelopia (Conchapelopia) melanops* (Meigen, 1818)

Kettani et al. 1996; Kettani et al. 1997, **Rif**, Ras el Ma (Chefchaouen); Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012

*Conchapelopia (Conchapelopia) pallidula* (Meigen, 1818)

Kettani and Moubayed-Breil 2018, **Rif**

*Conchapelopia (Conchapelopia) viator* (Kieffer, 1911)

= *Conchapelopia* Pe 1 Langton 1991 in Kettani et al. 1994: 28, Kettani et al. 1995: 256

Azzouzi et al. 1992, **HA**, Gorges de Dadès (Imdiazen, 1900 m); Kettani et al. 1994; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Ashe and O'Connor 2009; Kettani and Langton 2012

***Larsia* Fittkau, 1962**

*Larsia atrocincta* (Goetghebuer, 1942)

Azzouzi et al. 1992, **HA**, Gorges de Dadès (Imdiazen, 1900 m); Kettani et al. 1994, **Rif**, Oued Moulay Bouchta; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Larsia curticalcar* (Kieffer, 1918)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani et al. 2010, **Rif**, Nord Maggou village (Maggou, 905 m); Kettani and Langton 2012

***Nilotanypus* Kieffer, 1923**

*Nilotanypus dubius* (Meigen, 1804)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, Oued Siflaou, Oued Moulay Bouchta, aval Oued Tassikeste; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Kanar (Gorges Kanar, 280 m), Oued Tassikeste (Afechtal, 240 m), Oued Talembote (Usine électrique, 120 m), Oued Laou (Afertane, 55 m); Ashe and O'Connor 2009; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

***Paramerina* Fittkau, 1962**

*Paramerina cingulata* (Walker, 1856)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Dakki 1997;

Kettani et al. 1997, **Rif**, Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Ashe and O'Connor 2009; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Paramerina divisa* (Walker, 1856)

Kettani et al. 1996; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani and Langton 2012

*Paramerina mauretana* Fittkau, 1962

Fittkau 1962, **Atlas** (850 m), **SA**; Azzouzi and Laville 1987; Ashe and Cranston 1990, **EM**, Figuig; Kettani et al. 2001; Ashe and O'Connor 2009, **EM**, Figuig; Kettani et al. 2010, **Rif**, Oued Tassikeste (Afechtal, 240 m); Kettani and Langton 2012

*Paramerina spec.* Greichenland (Fittkau, 1962)

Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat; Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Laville and Langton 2002; Kettani et al. 2010, **Rif**, Oued Chrafat (Armotah, 900 m), Oued Talembote (aval Barrage Talembote, 245 m); Kettani and Moubayed-Breil 2018, **Rif**

***Pentaneurella* Fittkau & Murray, 1983**

*Pentaneurella* sp. Ourika

Azzouzi et al. 1992, **HA**; Kettani et al. 2001

***Rheopelopia* Fittkau, 1962**

*Rheopelopia maculipennis* (Zetterstedt, 1838)

Naya 1988, **MA**, Haut et Moyen Sebou; Azzouzi and Laville 1987, **MA**, Oumer-Rbia, **HA**, Tensift; Kettani et al. 1994, **Rif**, Oued Siflaou, Oued Moulay Bouchta; Kettani et al. 1995, **Rif**, aval Oued El Kbir, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Dakki et al. 2008, **MA**, Oued Sebou; Ashe and O'Connor 2009; Kettani et al. 2010, **Rif**, Ruisselet maison forestière (Talassemthane, 1683 m), Source Maggou (Maggou, 1300 m), Oued Talembote (avant village Talembote, 320 m), Oued Tassikeste (Afechtal, 240 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Rheopelopia murrayi* Dowling, 1983

Dowling 1983, **AA**, Tata (Moyen Draa); Ashe and Cranston 1990; Kettani et al. 2001; Ashe and O'Connor 2009; 2012; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Rheopelopia ornata* (Meigen, 1838)

Azzouzi and Laville 1987, **MA**, Oued Fès; Kettani et al. 1995, **Rif**, Oued El Kbir, amont Oued Nakhla, aval Oued Khemis; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani

et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Dakki et al. 2008, **MA**, Oued Sebou; Ashe and O'Connor 2009; Kettani et al. 2010, **Rif**, Oued Talembote (avant village Talembote, 320 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

***Telopelopia* Roback, 1971**

*Telopelopia fascigera* (Verneaux, 1970)

= *Telopelopia maroccana* Murray, 1980, in Reiss 1977: 91, Murray 1980: 151, Azzouzi and Laville 1987: 218, Ashe and Cranston 1990: 133

Reiss 1977, **AP**, Larache, **HA**, Dra-Tal; Murray 1980, **AP**, Larache, **HA**, Dra-Tal; Azzouzi and Laville 1987; Ashe and Cranston 1990; Azzouzi and Laville 1987, **MA**, Oum-er-Rbia; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012

***Telmatopelopia* Fittkau, 1962**

*Telmatopelopia nemorum* (Goetghebuer, 1921)

Kettani et al. 1996, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012

***Thienemannimyia* Fittkau, 1957**

*Thienemannimyia* (*Thienemannimyia*) *berkaneae* Dowling, 1987

Dowling 1987, **EM**, Berkane; Azzouzi et al. 1992, **EM**, Environs de Berkane, **HA**, Ouarzazate (1160 m), Oasis Meski (1160 m), Aït Saoun; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Thienemannimyia* (*Thienemannimyia*) *carnea* (Fabricius, 1805)

Kettani and Langton 2012, **Rif**

*Thienemannimyia* (*Thienemannimyia*) *choumara* Dowling, 1983

Dowling 1983, **EM**, Environ de Berkane (Monts de Bni Snassen), **HA**, Souk des Judais (Marrakech); Azzouzi et al. 1987, **HA**, Dra-Tal; Ashe and Cranston 1990; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012

*Thienemannimyia* (*Thienemannimyia*) *geijskesi* (Goetghebuer, 1934)

Kettani and Langton 2012, **Rif**, Oued Zarka

*Thienemannimyia* (*Thienemannimyia*) *laeta* (Meigen, 1818)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Thienemannimyia* (*Thienemannimyia*) *lentiginosa* (Fries, 1823)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Thienemannimyia* (*Thienemannimyia*) *northumbrica* (Edwards, 1929)

Fittkau 1962; Azzouzi and Laville 1987, **MA**, Oum-er-Rbia; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Dakki

et al. 2008, **MA**, Oued Sebou; Ashe and O'Connor 2009; Kettani and Langton 2012

***Trissopelopia* Kieffer, 1923**

*Trissopelopia longimana* (Staeger, 1839)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

***Xenopelopia* Fittkau, 1962**

*Xenopelopia falcigera* (Kieffer, 1911)

Kettani and Langton 2011, **Rif**, Anasser, Fifi, **AP**, marais de Loukous; Kettani and Langton 2012

*Xenopelopia nigricans* (Goetghebuer, 1927)

Kettani et al. 1994, **Rif**, aval Oued Talembote (usine électrique); Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani et al. 2010, **Rif**, Oued Talembote (aval affluent Talembote, 155 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

***Zavrelimyia* Fittkau, 1962**

*Zavrelimyia (Zavrelimyia) barbatipes* (Kieffer, 1911)

Naya 1988, **MA**, Moyen Sebou; Kettani et al. 2001; Ashe and O'Connor 2009 (?); Kettani et al. 2010, **Rif**, Oued Tiffert (Tiffert Talassemthane, 1230 m), Aïn Abou Hayane (Tiouertiouane, 880 m), Oued Abiyati (Ifansa, 140 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Zavrelimyia (Zavrelimyia) berberi* Fittkau, 1962

Azzouzi and Laville 1987; Ashe and Cranston 1990, **HA**, Tamhda; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Zavrelimyia (Zavrelimyia) hirtimana* (Kieffer, 1918)

Kettani and Langton 2012

*Zavrelimyia (Zavrelimyia) melanura* (Meigen, 1804)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Zavrelimyia (Zavrelimyia) nubila* (Meigen, 1830)

Kettani and Langton 2011, **Rif**, marais de Lemtahane (PNPB), Dayat Aïn Rami, Dayat Amlay; Kettani and Langton 2012

Procladiini

***Procladius* Skuse, 1889**

*Procladius (Holotanypus) brevipetiolatus* (Goetghebuer, 1935)

Azzouzi et al. 1992, **HA**, Oued Meski (1160 m), Khettaras de Marrakech; Kettani et al. 2001; Kettani and Langton 2012

*Procladius (Holotanypus) choreus* (Meigen, 1804)

Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; El Mezdi and Giudicelli 1985, **HA**, Khettaras de Marrakech; Azzouzi and Laville 1987, **AP**, Mer-

ja Sidi Boughaba; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote; Kettani et al. 1995, **Rif**, amont Oued Nakhla, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 2010, **Rif**, Ain Talassemrane (Talamsemrane, 1700 m), Oued Talembote (aval Barrage Talembote, 245 m), Oued Tassikeste (Afechtal, 240 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Procladius (Holotanypus) culiciformis* (Linnaeus, 1767)

Kettani and Moubayed-Breil 2018, **Rif**

*Procladius (Holotanypus) noctivagus* (Kieffer, 1910)

Azzouzi et al. 1992, **HA**, Ouarzazate (1160 m); Kettani et al. 2001; Kettani and Langton 2012

*Procladius (Holotanypus) sagittalis* (Kieffer, 1909)

Kettani et al. 1996; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Procladius (Psilotanypus) anomalus* Kieffer, 1906

*Nomen dubium* in Ashe and O'Connor 2009: 213

Naya 1988, **MA**; Kettani et al. 2001; Kettani and Langton 2012

*Procladius* Pe 3 Langton 1991

Kettani et al. 1994, Kettani et al. 1995, **Rif**, Oued Mhajrat; Kettani et al. 1996; Kettani et al. 2001; Dakki 1997

## Tanypodini

### ***Tanypus* Meigen, 1803**

*Tanypus (Tanypus) brevipalpis* (Kieffer, 1923)

Reiss 1977, **EM**, Berkane; Ashe and O'Connor 2009 (?); Kettani and Langton 2012

*Tanypus (Tanypus) kraatzi* (Kieffer, 1912)

Azzouzi et al. 1992, **HA**, Oasis Meski; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012

*Tanypus (Tanypus) punctipennis* Meigen, 1818

Reiss 1977, **EM**, Berkane; El Mezdi and Giudicelli 1985, **HA**, Khetaras de Marrakech; Azzouzi and Laville 1987, **HA**, Oued Tensift; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

## Diamesinae

### Boreoheptagiini

### ***Boreoheptagya* Brundin, 1966**

*Boreoheptagya legeri* (Goetghebuer, 1933)

= *Boreoheptagya punctulata* (Goetghebuer, 1934), in Kettani et al. 2001: 327



Ashe and Cranston 1990; Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

## Diamesini

### *Diamesa* Meigen, 1835

#### *Diamesa aberrata* Lundbeck, 1898

Saether 1968; Serra-Tosio 1973; Fittkau and Reiss 1987; Serra-Tosio 1983; Azzouzi and Laville 1987, **HA** (2500–3350 m); Ashe and Cranston 1990; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012

#### *Diamesa bertrami* Edwards, 1935

Serra-Tosio 1983, **HA**, Gorges de Todra (2500 m); Azzouzi and Laville 1987, **HA**, Gorges Todra; Ashe and Cranston 1990; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012

#### *Diamesa hamaticornis* Kieffer, 1924

Reiss 1977; Serra-Tosio 1983, **HA**, M'Goum; Azzouzi and Laville 1987, **HA**, M'Goum; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

#### *Diamesa insignipes* Kieffer, 1908

Serra-Tosio 1983, **HA** (2500 m); Azzouzi and Laville 1987; Naya 1988, **MA**, Haut and Moyen Sebou; Ashe and Cranston 1990; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**; Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)

#### *Diamesa latitarsis* (Goetghebuer, 1921)

Vaillant 1955b; Vaillant 1956b, **HA**, Asif Tessaout (M'Goum), Lac Tamhda (Anremmer); Serra-Tosio 1967; Serra-Tosio 1967; Saether 1968; Serra-Tosio 1973; Azzouzi and Laville 1987, **HA**; Ashe and Cranston 1990; Kettani et al. 2001, Ashe and O'Connor 2009; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

#### *Diamesa steinboeckii* Goetghebuer, 1933

Vaillant 1956b, **HA**, Cascade Siroua, Oukaïmeden, Sidi Chamarouch

#### *Diamesa tonsa* (Haliday in Walker, 1856)

= *Diamesa thienemanni* Kieffer, 1909

Naya 1988, **MA**, Haut Sebou (Arhbalou Yahya, Oued Arbi, Pont Aït hamza); Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2011, **Rif**, Oued Ketama, Oued Sgara; Kettani and Langton 2012

#### *Diamesa vaillanti* Serra-Tosio, 1972

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012

*Diamesa veletensis* Serra-Tosio, 1971

Serra-Tosio 1983, **HA** (2500 m); Azzouzi and Laville 1987, **HA**; Ashe and Cranston 1990; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Diamesa zernyi* Edwards, 1933

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012

***Potthastia* Kieffer, 1922***Potthastia gaedii* (Meigen, 1838)

Azzouzi and Laville 1987, **MA**, oued Boufekrane, Oued Fès, Oued Oumer-Rbia; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Oued Talembote (usine électrique), Oued Afertane, aval Oued Laou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat; Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani et al. 2010, **Rif**, Oued Laou, Oued Afertane; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**; Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)

*Potthastia pastoris* (Edwards, 1933)

Kettani and Moubayed-Breil 2018, **Rif**

***Pseudodiamesa* Goetghebuer, 1939***Pseudodiamesa (Pseudodiamesa) branickii* (Nowicki, 1873)

Naya 1988, **MA**, Haut Sebou; Ashe and Cranston 1990; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2001; Kettani and Langton 2012

*Pseudodiamesa (Pseudodiamesa) nivosa* (Goetghebuer, 1928)

Naya 1988, **MA**, Moyen Sebou; Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Ashe and O'Connor 2009; Kettani and Langton 2012

***Symptothastia* Pagast, 1947***Symptothastia zavreli* Pagast, 1947

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, Haut Laou; Kettani et al. 1995, **Rif**, aval Oued Krikra; Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

***Syndiamesa* Kieffer, 1918***Syndiamesa hygropterica* (Kieffer, 1909)

Naya 1988, **MA**, Moyen Sebou (Sidi Abdellah, Dar El Arsa, Pont Oulad Slimane, Pont Portugais); Ashe and Cranston 1990; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012

## Protanypini

***Protanypus* Kieffer, 1906***Protanypus morio* (Zetterstedt, 1838)

Naya 1988, **MA**, Moyen Sebou; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012

## Prodiamesinae

***Odontomesa* Pagast, 1947***Odontomesa fulva* (Kieffer, 1919)Azzouzi and Laville 1987, **MA**, Oued Oum-er-Rbia; Kettani et al. 2001; Ashe and O'Connor 2009; Kettani and Langton 2012***Prodiamesa* Kieffer, 1906***Prodiamesa olivacea* (Meigen, 1818)Naya 1988, **MA**, Haut Sebou (Haut Guigou); Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, Haut Laou; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Ras el Ma (Chefchaouen); Kettani et al. 2001; Ashe and O'Connor 2009; Kettani et al. 2010, **Rif**, Maggou village, Ifansa; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

## Orthocladiinae

## Orthocladiini

***Acricotopus* Kieffer, 1921***Acricotopus lucens* (Zetterstedt, 1850)Kettani and Moubayed-Breil 2018, **Rif*****Brillia* Kieffer, 1913***Brillia bifida* (Kieffer, 1909)= *Brillia modesta* (Meigen, 1830)Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Ras el Ma (Chefchaouen); Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Tamaridine (Zaouiet El Habtiyine, 819 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif***Brillia flavifrons* (Johannsen, 1905)

Kettani and Langton 2012

*Brillia longifurca* Kieffer, 1921Azzouzi and Laville 1987, **MA**, Oued Boufekrane, Oued Sebou, Oued Oum-er-Rbia; Kettani et al. 1995, **Rif**, amont Oued Nakhla, Oued Mhajrat; Kettani et al. 1996; Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2010, **Rif**, Oued Talembote (avant village Talembote, 320 m), Oued Talembote (Usine électrique, 120 m); Kettani and Langton 2012; Ashe and O'Connor 2012***Bryophaenocladus* Thienemann, 1934***Bryophaenocladus aestivus* (Brundin, 1947)Kettani and Moubayed-Breil 2018, **Rif**; Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)*Bryophaenocladus flexidens* (Brundin, 1947)Kettani and Moubayed-Breil 2018, **Rif***Bryophaenocladus* cf. *furcatus* Thienemann & Strenzke, 1940Kettani and Moubayed-Breil 2018, **Rif**

*Bryophaenocladus illimbatus* (Edwards, 1929)

Kettani and Moubayed-Breil 2018, **Rif**; Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)

*Bryophaenocladus muscicola* (Kieffer, 1906)

Kettani and Moubayed-Breil 2018, **Rif**

*Bryophaenocladus nidorum* (Edwards, 1929)

Kettani and Moubayed-Breil 2018, **Rif**

*Bryophaenocladus subvernalis* (Edwards, 1929)

Azzouzi and Laville 1987, **MA**, Oued Boufekrane; Kettani et al. 2001; Kettani and Langton 2011, **Rif**, Oued Taida (Moulay Abdelsalam); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**; Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)

*Bryophaenocladus tuberculatus* (Edwards 1929)

Kettani and Moubayed-Breil 2018, **Rif**

### ***Camptocladus* Wulp, 1874**

*Camptocladus stercorarius* (De Geer, 1976)

Kettani and Moubayed-Breil 2018, **Rif**

### ***Cardiocladius* Kieffer, 1912**

*Cardiocladius capucinus* (Zetterstedt, 1850)

Azzouzi and Laville 1987, **MA**, Oued Oum-er-Rbia; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote, Oued Afertane, aval Oued Tassikeste; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m), Oued Tassikeste (Afechtal, 240 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Cardiocladius fuscus* Kieffer, 1924

Azzouzi and Laville 1987, **MA**, Oued Boufekrane, Oued Oum-er-Rbia; Naya 1988, **MA**, Haut Sebou (Amont de Aïn Tadout, Skhounate, amont confluence avec Oued Atchane, Pont Aït Hamza); Kettani et al. 1994, **Rif**, Oued Siflaou; Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

### ***Chaetocladus* Kieffer, 1911**

*Chaetocladus* (*Chaetocladus*) *acuticornis* (Kieffer in Potthast, 1914)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Chaetocladus dentiforceps* (Edwards, 1929)

Kettani and Moubayed-Breil 2018, **Rif**; Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)

*Chaetocladius dissipatus* (Edwards, 1929)

Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)

*Chaetocladius (Chaetocladius) melaleucus* (Meigen, 1818)

Kettani and Langton 2011, **Rif**, Oued Sgara, Bab Tariouant, Bouztata; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Chaetocladius piger* (Goetghebuer, 1913)

Kettani and Moubayed-Breil 2018, **Rif**

*Chaetocladius (Chaetocladius) perennis* (Meigen, 1830)

Kettani and Langton 2011, **Rif**, Oued Hamma; Kettani and Langton 2012

*Chaetocladius (Chaetocladius) vitellinus* (Kieffer in Kieffer & Thienemann, 1908)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012

### ***Corynoneura* Winnertz, 1846**

*Corynoneura carriana* Edwards, 1924

Naya 1988, **MA**, Haut Sebou (Haut Guigou, Aïn Nokra); Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Corynoneura celtica* Edwards, 1924

Kettani and Langton 2011, **Rif**, Oued Hamma; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Corynoneura coronata* Edwards, 1924

Kettani and Langton 2011, **Rif**, Oued Hamma; Kettani and Langton 2012; Ashe and O'Connor 2012

*Corynoneura edwardsi* Brundin, 1949

Kettani and Langton 2012

*Corynoneura lacustris* Edwards, 1924

El Mezdi and Giudicelli 1985, **HA**, Khettaras de Marrakech; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Corynoneura lobata* Edwards, 1924

Kettani et al. 1996, **Rif**, Oued Nakhla; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Kelaâ (Akoumi, 400 m); Azzouzi et al. 1992, **HA**; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Corynoneura scutellata* Winnertz, 1846

Kettani and Moubayed-Breil 2018, **Rif**

*Corynoneura* Pe 2 Langton 1991

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012

***Corynoneurella* Brundin, 1949***Corynoneurella paludosa* Brundin, 1949

Kettani et al. 2010, **Rif**, Nord Maggou village (Maggou, 905 m), Oued Kelaâ (Akoumi, 400 m), Oued Talembote (avant village Talembote, 320 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

***Cricotopus* van der Wulp, 1874***Cricotopus (Cricotopus) albiforceps* (Kieffer in Thienemann and Kieffer 1916)

Kettani et al. 1996; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Cricotopus) annulator* Goetghebuer, 1927

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Talembote (avant village Talembote, 320 m), Oued Tassikeste (Afechtal, 240 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2011, **Rif**, Oued Sgara; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Cricotopus) beckeri* Hirvenoja, 1973

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1995, **Rif**, aval Oued El Kbir; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou); Kettani et al. 2001; Langton and Laville 2002; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Cricotopus) bicinctus* (Meigen, 1818)

Azzouzi and Laville 1987, **MA**, Oued Boufekrane; Naya 1988, **MA**, Haut et Moyen Sebou; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote, Oued Afertane, aval Oued Laou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis, Oued Martil (Tamuda); Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2010, **Rif**, Source Maggou (Maggou, 1300 m), Oued Talembote (aval Barrage Talembote, 245 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Cricotopus) caducus* Hirvenoja, 1973

Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Cricotopus) ephippium* (Zetterstedt, 1838)

Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Cricotopus) levantinus* Moubayed & Hirvenoja, 1986

Kettani et al. 1996, **Rif**, Haut Maggou; Kettani et al. 1997, **Rif**, Maggou (Oued Laou); Kettani et al. 2001; Laville and Langton 2002; Kettani et al.

2010, **Rif**, Source Maggou (Maggou, 1300 m), Oued Inesmane (Adeldal, 1173 m); Kettani and Langton 2012; Ashe and O'Connor 2012

*Cricotopus (Cricotopus) pallidipes* Edwards, 1929

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1995, **Rif**, Oued Martil (Tamuda); Kettani et al. 1996; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Cricotopus) pulchripes* Verrall, 1912

Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Cricotopus) similis* Goetghebuer, 1921

Azzouzi and Laville 1987, **MA**, Oued Oum-er-Rbia; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Afertane, aval Oued Talembote (usine électrique), aval Oued Tassikeste; Kettani et al. 1995, **Rif**, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m), Oued Talembote (aval affluent Talembote, 155 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Cricotopus) tremulus* (Linnaeus, 1758)

Kettani et al. 2010, **Rif**, Oued Maggou (Maggou village, 777 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Cricotopus) triannulatus* (Macquart, 1826)

Kettani et al. 1994, **Rif**, Haut Laou, Oued Moulay Bouchta, Oued Afertane; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra; Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Talembote (aval affluent Talembote, 155 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Cricotopus) trifascia* Edwards, 1929

Azzouzi and Laville 1987, **MA**, Oued Boufekrane, Oued Fès, Oued Oum-er-Rbia; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote, aval Oued Talembote (usine électrique), aval Oued Tassikeste; Kettani et al. 1995, **Rif**, aval Oued Krikra, amont Oued Nakhla, Oued Mhajrat; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2010, **Rif**, Oued Maggou (Maggou village, 777 m), Oued Talembote (aval Barrage Talembote, 245 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**



*Cricotopus (Cricotopus) vierriensis* Goetghebuer, 1935

El Mezdi and Giudicelli 1985, **HA**, Khettaras de Marrakech; Azzouzi and Laville 1987, **MA**, Oued Boufekrane, Oued Fès, Oued Sebou, Oued Oum-er-Rbia, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote, aval Oued Talembote (usine électrique), Oued Afertane, aval Oued Tassikeste, aval Oued Laou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m), Oued Talembote (aval affluent Talembote, 155 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Isocladius) brevipalpis* Kieffer, 1909

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012

*Cricotopus (Isocladius) laetus* Hirvenoja, 1973

Kettani et al. 1994, **Rif**, Oued Siflaou; Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012

*Cricotopus (Isocladius) ornatus* (Meigen, 1818)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012

*Cricotopus (Isocladius) sylvestris* (Fabricius, 1794)

Fittkau and Reiss 1978; Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; El Mezdi and Giudicelli 1985, **HA**, Khettaras de Marrakech; Azzouzi and Laville 1987, **MA**, Oued Boufekrane, Oued Fès, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, Haut Laou; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Isocladius) tricinctus* (Meigen, 1818)

Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Paratrichocladius) micans* (Kieffer, 1918)

Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote, aval Oued Talembote (usine électrique), Oued Afertane, aval Oued Tassikeste; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Maggou (Oued Laou); Dakki 1997; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Haut Maggou (1300 m), Oued Talembote, Oued Laou (Afertane, 56 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Paratrichocladius) osellai* Rossaro, 1990

Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Paratrichocladius) rufiventris* (Meigen, 1830)

El Mezdi and Giudicelli 1985, **HA**, Khettaras de Marrakech; Azzouzi and Laville 1987, **MA**, Oued Fès, Oued Boufekrane, Oued Sebou, Oued Oum-er-Rbia, **HA**, Oued Tensift; (Dar El Arsa, Pont oulad Slimane, Pont portugais); Naya 1988, **MA**, Haut et Moyen Sebou; Kettani et al. 1995, **Rif**, Oued Mhajrat; Kettani et al. 1996; Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Kelaâ (Akoumi, 400 m), Oued Talembote; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Cricotopus (Paratrichocladius) skirwithensis* (Edwards, 1929)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

***Eukiefferiella* Thienemann, 1926**

*Eukiefferiella ancyla* Svensson, 1986

Kettani and Langton 2011, **Rif**, Oued Tkarae; Kettani and Langton 2012; Ashe and O'Connor 2012

*Eukiefferiella bedmari* Vilchez-Quero & Laville, 1988

Azzouzi and Laville 1987, **MA**, Oued Fès, Oued Oum-er-Rbia; Kettani et al. 1994, **Rif**, Haut Laou, aval Oued Talembote (usine électrique), Oued Afer-tane, aval Oued Tassikeste; Kettani et al. 1995, **Rif**, aval Oued Krikra, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Laville and Langton 2002; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2010, **Rif**, Oued Kelaâ (Akoumi, 400 m), Oued Talembote (aval Barrage Talembote, 245 m), Oued Talembote (aval affluent Talembote, 155 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Eukiefferiella brehmi* Gowin, 1943

Kettani et al. 1996; Kettani et al. 1997, **Rif**, Maggou (Oued Laou); Kettani et al. 2001; Kettani et al. 2010, **Rif**, Source Maggou (Maggou, 1300 m), Oued Kelaâ (Akoumi, 400 m), Oued Talembote (avant village Talembote, 320 m), Oued Talembote (Usine électrique, 120 m)

*Eukiefferiella brevicar* (Kieffer, 1911)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani et al. 2010, **Rif**, Nord Maggou village (Maggou, 905 m), Oued Ametrasse (Ametrasse, 820 m); Kettani and Langton 2011, **Rif**, Oued Issaguen, Oued Ketama, Oued Sgara; Bab Tariouant, Bouztate (Fifi); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Eukiefferiella claripennis* (Lundbeck, 1898)

Fittkau and Reiss 1978; Naya 1988, **MA**, Moyen Sebou (Dar Cheik Harazem); Azzouzi and Laville 1987, **MA**, Oued Oum-er-Rbia; Kettani et al. 1994, **Rif**, Oued Siflaou; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Oued Khizana

(Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Eukiefferiella clypeata* (Thienemann, 1919)

Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Oued Talembote (usine électrique); Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Laou (Afertane, 55 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Eukiefferiella coerulescens* (Kieffer in Zavřel, 1926)

Azzouzi and Laville 1987, **MA**, Oued Oum-er-Rbia; Naya 1988, **MA**, Haut Sebou (Skhounate, Arhbalou Aberchane); Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote, aval Oued Talembote (usine électrique), aval Oued Tassikeste, aval Oued Laou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2010, **Rif**, Source Maggou (Maggou, 1300 m), Nord Maggou village (Maggou, 905 m), Oued Tamaridine (Zaouiet El Habtiyine, 819 m), Oued Maggou (Maggou village, 777 m), Oued Kelaâ (Akoumi, 400 m), Oued Talembote (aval Barrage Talembote, 245 m), Oued Talembote (aval affluent Talembote, 155 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Eukiefferiella cyanea* Thienemann, 1936

Vaillant 1955b, **HA**; Fittkau and Reiss 1978; Azzouzi and Laville 1987, **HA**; Kettani et al. 1996, **Rif**, Oued Nakhla; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Eukiefferiella devonica* (Edwards, 1929)

Azzouzi and Laville 1987, **MA**, Oued Oum-er-Rbia; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**; Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)

*Eukiefferiella dittmari* Lehmann, 1972

Kettani and Langton 2011, **Rif**, Oued Boujdad, Fifi; Kettani and Langton 2012, **Rif**, Oued Zarka; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Eukiefferiella fittkaui* Lehmann, 1972

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012

*Eukiefferiella fuldensis* Lehmann, 1972

Azzouzi and Laville 1987, **MA**, Oued Oum-er-Rbia; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**; Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)

*Eukiefferiella gracei* (Edwards, 1929)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, aval Oued Tassikeste; Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)

*Eukiefferiella ilkleyensis* (Edwards, 1929)

Azzouzi and Laville 1987, **MA**, Oued Oum-er-Rbia; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Eukiefferiella lobifera* Goetghebuer, 1934

Azzouzi and Laville 1987, **MA**, Oued Fès, Oued Oum-er-Rbia; Kettani et al. 2001; Kettani and Langton 2011, **Rif**, Oued Ketama, Oued Sgara; Kettani and Langton 2012; Ashe and O'Connor 2012

*Eukiefferiella minor* (Edwards, 1929)

Vaillant 1955b, **HA** (1050 m); Vaillant 1956b, **HA**, Imi-N'Ifri; Azzouzi and Laville 1987, **HA**; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012

*Eukiefferiella pseudomontana* Goetghebuer, 1935

Kettani et al. 2010, **Rif**, Oued Madissouka (Talassemthane, 1530 m), Oued Dchar d'Amran (Béni M'Hamed, 1180 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Eukiefferiella similis* Goetghebuer, 1939

Azzouzi and Laville 1987, **MA**, Oued Boufekrane, Oued Fès, Oued Sebou, Oued Oum-er-Rbia; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Eukiefferiella tirolensis* Goetghebuer, 1938

Kettani et al. 1994, **Rif**, Oued Afertane; Kettani et al. 1996; Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Talembote (aval affluent Talembote, 155 m); Azzouzi et al. 1992, **HA**, Oued Tensift; Dakki 1997; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Eukiefferiella* Pe 2 Langton 1991

Kettani et al. 2010, **Rif**, Oued Kelaâ (Akoumi, 400 m); Kettani and Langton 2012

***Halocladius* Hirvenoja, 1973**

*Halocladius* (*Halocladius*) *varians* (Staeger, 1839)

Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; Azzouzi and Laville 1987; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Maggou (Oued Laou); Kettani et al. 2001; Kettani et al. 2010, **Rif**, Source Maggou (Maggou, 1300 m); Ashe and Cranston 1990; Kettani and Langton 2012; Ashe and O'Connor 2012

***Heleniella* Gowin, 1943**

*Heleniella* *dorieri* Serra-Tosio, 1967

Kettani and Langton 2012

*Heleniella* *ornaticollis* (Edwards, 1929)

Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, amont Oued Nakhla, Oued Mhajrat; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Maggou (Oued Laou); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Source Maggou (Maggou, 1300 m), Oued Kelaâ (Akoumi, 400 m); Kettani and Langton 2012; Ashe and O'Connor 2012

*Heleniella* *serratosioi* Ringe, 1976

Kettani and Langton 2011, **Rif**, Oued Hamma, Bouztate (Fifi); Kettani and Langton 2012; Ashe and O'Connor 2012

***Heterotrissocladius* Spärck, 1923**

*Heterotrissocladius* *marcidus* (Walker, 1856)

Naya 1988, **MA**, Moyen Sebou; Kettani et al. 2001; Kettani and Langton 2012; Dakki et al. 2008, **MA**, Oued Sebou; Ashe and O'Connor 2012

***Hydrobaenus* Fries, 1830**

*Hydrobaenus* *conformis* (Holmgren, 1869)

Kettani and Moubayed-Breil 2018, **Rif**

***Hydrosmittia* Ferrington & Sæther, 2011**

*Hydrosmittia* *oxoniana* (Edwards, 1929)

= *Pseudosmittia* *recta* (Edwards, 1929), in Azzouzi and Laville 1987: 218, Kettani et al. 2001: 330, Kettani and Langton 2012: 422

Azzouzi and Laville 1987, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Hydrosmittia* *ruttneri* (Strenzke & Thienemann, 1942)

Kettani and Moubayed-Breil 2018, **Rif**

***Krenosmittia* Thienemann & Krüger, 1939**

*Krenosmittia* *boreoalpina* (Goetghebuer, 1944)

Kettani et al. 1996, **Rif**, Oued Nakhla; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani and Langton 2012; Ashe and O'Connor 2012

*Krenosmittia camptophleps* (Edwards, 1929)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2011, **Rif**, Oued Ketama, Oued Sgara; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Krenosmittia halvorseni* (Cranston & Sæther, 1986)

Kettani et al. 1995, **Rif**, aval Oued El Kbir; Kettani et al. 1996; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012

*Krenosmittia hispanica* Wülker, 1957

Kettani et al. 2001; Laville and Langton 2002; Ashe and O'Connor 2012

***Limnophyes* Eaton, 1875**

*Limnophyes difficilis* Brunidin, 1947

Kettani and Moubayed-Breil 2018, **Rif**

*Limnophyes gelasinus* Saether, 1990

Kettani and Moubayed-Breil 2018, **Rif**

*Limnophyes habilis* (Walker, 1856)

Kettani and Moubayed-Breil 2018, **Rif**

*Limnophyes madeirae* Sæther, 1985

Kettani and Moubayed-Breil 2018, **Rif**

*Limnophyes minimus* (Meigen, 1818)

Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; Azzouzi and Laville 1987, **MA**, Lac Aguelmane Azigza; Kettani et al. 2001; Kettani and Langton 2011; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Limnophyes natalensis* (Kieffer, 1914)

Kettani and Moubayed-Breil 2018, **Rif**

*Limnophyes ninae* Sæther, 1975

Kettani et al. 1996, **Rif**, Oued Nakhla; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Limnophyes pentaplastus* (Kieffer, 1921)

Kettani and Moubayed-Breil 2018, **Rif**

*Limnophyes pumilio* (Holmgren, 1869)

Kettani and Moubayed-Breil 2018, **Rif**

*Limnophyes punctipennis* (Goetghebuer, 1919)

Kettani and Langton 2012

*Limnophyes* Pe 1a Langton 1991

Kettani et al. 2010, **Rif**, Oued Talembote (Usine électrique, 120 m); Kettani and Langton 2012

***Metriocnemus* van der Wulp, 1874**

*Metriocnemus* (*Metriocnemus*) *albolineatus* Meigen, 1818

Kettani and Moubayed-Breil 2018, **Rif**

*Metriocnemus* (*Metriocnemus*) *eurynotus* (Holmgren, 1883)

= *Metriocnemus hygropetricus* Kieffer, 1912, in Ashe and O'Connor 2012: 372

= *Metriocnemus* (*Metriocnemus*) *obscuripes* (Holmgren, 1869), in Azzouzi et al. 1992: 229, Kettani et al. 2001: 329, Kettani and Langton 2012: 421

Boumezzough and Thomas 1987, **HA**, Oued Réghaya (1740 m), Imlil; Azzouzi and Laville 1987, **HA**, Oued Tensift; Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**; Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)

*Metriocnemus* (*Metriocnemus*) *fuscipes* (Meigen, 1818)

Azzouzi and Laville 1987, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Metriocnemus* (*Metriocnemus*) *hirticollis* (Staeger, 1839)

Kettani and Moubayed-Breil 2018, **Rif**

*Metriocnemus* (*Metriocnemus*) *ursinus* Holmgren, 1869

Kettani and Moubayed-Breil 2018, **Rif**

### ***Nanocladius* Kieffer, 1913**

*Nanocladius* (*Nanocladius*) *balticus* (Palmén, 1959)

Kettani et al. 1995, **Rif**, Oued El Kbir, amont Oued Nakhla; Kettani et al. 1996; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Nanocladius* (*Nanocladius*) *dichromus* (Kieffer 1906)

Kettani and Moubayed-Breil 2018, **Rif**

*Nanocladius* (*Nanocladius*) *parvulus* (Kieffer 1909)

Kettani and Moubayed-Breil 2018, **Rif**

*Nanocladius* (*Nanocladius*) *rectinervis* (Kieffer, 1911)

Azzouzi and Laville 1987, **MA**, Oued Boufekrane, Oued Oum-er-Rbia; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, aval Oued Tassikeste; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Source Maggou (Maggou, 1300 m), Oued Inesmane (Adeldal, 1173 m), Oued Talembote (aval Barrage Talembote, 245 m); Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

### ***Orthocladius* van der Wulp, 1874**

*Orthocladius* (*Eudactylocladius*) *fuscimanus* (Kieffer, 1908)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, aval Oued Talembote (usine électrique); Kettani et al. 1995, **Rif**, aval Oued Krikra, Oued Mhajrat; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani et al. 2010, **Rif**, source Maggou (Maggou, 1300 m), Oued Chrafat (Armotah, 900 m), Oued Tamaridine (Zaouiet El Habtiyine, 819 m), Oued Talembote (Usine électrique, 120 m), Oued Laou (Afertane,



55 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Orthocladius (Euorthocladius) ashei* Sponis, 1990

= *Orthocladius luteipes* Goetghebuer, in Azzouzi and Laville 1987: 218

= *Orthocladius rivicola* Kieffer, in Azzouzi and Laville 1987: 218

Azzouzi and Laville 1987, **MA**, Oued Fès, Oued boufekrane, Oued Sebou, Oued Oum-er-Rbia; Kettani et al. 1994, **Rif**, aval Oued Talembote (usine électrique), aval Oued Tassikeste, aval Oued Laou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2010, **Rif**, Oued Talembote (avant village Talembote, 320 m), Oued Kanar (Gorges Kanar, 280 m), Oued Talembote (aval Barrage Talembote, 245 m), Oued Talembote (Usine électrique, 120 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2011, **Rif**, Bouztate (Fifi); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Orthocladius (Euorthocladius) rivulorum* Kieffer, 1909

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, Haut Laou; Kettani et al. 1995, **Rif**, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Orthocladius (Euorthocladius) thienemanni* Kieffer, 1906

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, aval Barrage Talembote, aval Oued Talembote (usine électrique), aval Oued Tassikeste; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Tamaridine (Zaouiet El Habtiyine, 819 m), Oued Kelaâ (Akoumi, 400 m), Oued Talembote (avant village Talembote, 320 m), Oued Talembote (aval Barrage Talembote, 245 m), Oued Tassikeste (Afechtal, 240 m), Oued Talembote (Usine électrique, 120 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Orthocladius (Mesorthocladius) frigidus* (Zetterstedt, 1838)

Vaillant 1955, **HA** (2900 m); Vaillant 1956b, **HA**, Lac Tamhda (Anremmer); Azzouzi and Laville 1987; Naya 1988, **MA**, Haut Sebou (Haut Guigou); Fekhaoui et al. 1993; Kettani et al. 1994, **Rif**, Haut Laou; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2010, **Rif**, Oued Dchar d'Amran (Béni M'Hamed, 1180 m), Nord Maggou village (Maggou, 905 m), Oued Tamaridine (Zaouiet El Habtiyine, 819 m), Oued Maggou (Maggou village,

777 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**; Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)

*Orthocladius (Orthocladius) oblidens* (Walker, 1856)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2011, **Rif**, Bouztate (Fifi); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Orthocladius (Orthocladius) obumbratus* Johannsen, 1905

= *Orthocladius excavatus* Brundin, in Azzouzi and Laville 1987: 218

Azzouzi and Laville 1987, **MA**, Oued Fès, Oued Oum-er-Rbia; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote, aval Oued Talembote (usine électrique), Oued Afertane, aval Oued Tassikeste, aval Oued Laou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis, Oued Martil (Tamuda); Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2010, **Rif**, Oued Talembote (avant village Talembote, 320 m), Oued Talembote (aval Barrage Talembote, 245 m), Oued Talembote (aval affluent Talembote, 155 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2012

*Orthocladius (Orthocladius) pedestris* Kieffer, 1909

Kettani et al. 2010, **Rif**, Oued Tassikeste (Afechtal, 240 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Orthocladius (Orthocladius) rubicundus* (Meigen, 1818)

= *Orthocladius saxicola* Kieffer, in Azzouzi and Laville 1987: 218

Azzouzi and Laville 1987, **MA**, Oued Boufekrane, Oued Sebou, Oued Oum-er-Rbia, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote, aval Oued Talembote (usine électrique), Oued Afertane, aval Oued Tassikeste, aval Oued Laou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis, Oued Martil (Tamuda); Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2010, **Rif**, Oued Talembote (avant village Talembote, 320 m), Oued Kanar (Gorges Kanar, 280 m), Oued Talembote (aval Barrage Talembote, 245 m), Oued Talembote (Usine électrique, 120 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Orthocladius (Orthocladius) vaillanti* Langton & Cranston, 1991

Kettani and Moubayed-Breil 2018, **Rif**

*Orthocladius* (*Symposiocladius*) *lignicola* Kieffer in Potthast, 1914

= *Symposiocladius lignicola* Kieffer, in Kettani et al. 2010: 70

Kettani et al. 2010, **Rif**, Oued Kelaâ (Akoumi, 400 m); Kettani and Langton 2012; Ashe and O'Connor 2012

*Orthocladius* (*Symposiocladius*) *ruffoi* Rossaro & Prato, 1991

= *Orthocladius* Pe 1 Langton 1991, in Azzouzi and Laville 1987: 218

= *Rheortocladius* sp A Langton 1991, in Kettani et al. 1995: 257

= *Rheorthocladius ruffoi* Rossaro, in Kettani et al. 1997: 184

Azzouzi and Laville 1987, **MA**, Oum-er-Rbia; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Tamaridine (Zaouiet El Habtiyine, 819 m), Oued Maggou (Maggou village, 777 m), Oued Kelaâ (Akoumi, 400 m), Oued Talembote (avant village Talembote, 320 m), Oued Kanar (Gorges Kanar, 280 m), Oued Talembote (aval Barrage Talembote, 245 m), Oued Tassikeste (Afechtal, 240 m), Oued Talembote (aval affluent Talembote, 155 m), Oued Laou (Ifansa, 105 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2012; Ashe and O'Connor 2012

### ***Paracricotopus* Brundin, 1956**

*Paracricotopus niger* (Kieffer, 1913)

Azzouzi and Laville 1987, **MA**, Oued Boufekrane, Oued Fès; Kettani et al. 1994, **Rif**, Oued Afertane; Kettani et al. 1995, **Rif**, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou); Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2001; Kettani et al. 2010, **Rif**, Haut Maggou, Oued Tamaridine (Zaouit et Habtyiène, 819 m), Oued Kelaâ (Akoumi, 400 m), Oued Kanar (Gorges Kanar, 280 m), Oued Talembote (155 m), Oued Tassikeste (240 m), Oued Laou (Ifansa, 105 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

### ***Parakiefferiella* Thienemann, 1936**

*Parakiefferiella coronata* (Edwards, 1929)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012

*Parakiefferiella wuelkeri* Moubayed, 1994

= *Parakiefferiella* sp. d Wülker, in Azzouzi et al. 1992: 230

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1995, **Rif**, aval Oued El Kbir; Kettani et al. 1996; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012

### ***Parametriocnemus* Goetghebuer, 1932**

*Parametriocnemus boreoalpinus* Gowin & Thienemann, 1942

Kettani and Langton 2011, **Rif**, Oued Taida (Moulay Abdelsalam); Kettani and Langton 2012; Ashe and O'Connor 2012

*Parametriocnemus stylatus* (Spärck, 1923)

Azzouzi and Laville 1987, **MA**, Oued Boufekrane, Oued Fès, Oued Oumer-Rbia; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote, aval Oued Talembote (usine électrique), Oued Afertane, aval Oued Tassikeste; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2010, **Rif**, Oued Béni M'Hamed (1330 m), Haut Maggou (1300 m), Oued Kelaâ (Akoumi, 400 m), Oued Talembote (320 m), Oued Tassikeste (Afechtal, 240 m), Oued Laou (Afertane, 56 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**; Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)

*Parametriocnemus valescurensis* Moubayed & Langton, 1999

Kettani and Langton 2011, **Rif**, Oued Issaguen; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Parametriocnemus* Pe 1 Langton 1991

Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Haut Maggou (1300 m), Oued Talembote (320 m); Kettani and Langton 2012

*Paraphaenocladus* Thienemann, 1924*Paraphaenocladus exagitans* ssp. 1

Kettani and Moubayed-Breil 2018, **Rif**

*Paraphaenocladus impensus impensus* (Walker, 1856)

Kettani and Moubayed-Breil 2018, **Rif**

*Paraphaenocladus irritus* Walker, 1856

Kettani and Moubayed-Breil 2018, **Rif**

*Paraphaenocladus pseudirritus* Strenzke, 1950

Kettani and Moubayed-Breil 2018, **Rif**

*Paratrissocladius* Zavřel, 1937*Paratrissocladius excerptus* (Walker, 1856)

Kettani et al. 1996, **Rif**, Ras el Ma (Chefchaouen); Kettani et al. 1997, **Rif**, Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Kelaâ (Akoumi, 400 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Parorthocladus* Thienemann, 1935*Parorthocladus nudipennis* (Kieffer in Kieffer & Thienemann 1908)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

***Psecrocladius* Kieffer, 1906***Psecrocladius* (*Allopsecrocladius*) *obvius* (Walker, 1856)= *Psecrocladius dilatatus* (van der Wulp, 1859), in Naya 1988: 48Naya 1988, **MA**, Moyaen Sebou; Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2011, **Rif**, sources de Issaguen; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif***Psecrocladius* (*Allopsecrocladius*) *platypus* (Edwards, 1929)Kettani and Moubayed-Breil 2018, **Rif***Psecrocladius* (*Mesopsecrocladius*) *barbatipes* Kieffer, 1923Kettani et al. 1994, **Rif**, aval Oued Talembote (usine électrique); Kettani et al. 1995, **Rif**, Oued Mhajrat; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Maggou (Oued Laou); Kettani et al. 2001; Kettani et al. 2010, **Rif**, Haut Maggou (1300 m), Oued Laou (Afertane, 56 m); Dakki 1997; Kettani and Langton 2012; Ashe and O'Connor 2012*Psecrocladius* (*Psecrocladius*) *brehmi* Kieffer, 1923Kettani et al. 1995, **Rif**, Oued Mhajrat; Kettani et al. 1996; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012*Psecrocladius* (*Psecrocladius*) *fennicus* Storå, 1939

Kettani and Langton 2012

*Psecrocladius* (*Psecrocladius*) *limbatellus* (Holmgren, 1869)Wülker 1959; Azzouzi and Laville 1987, **HA**, Lac Tamhda (2800 m); Kettani et al. 2001; Kettani and Langton 2011, **AP**, marais de Loukous; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif***Psecrocladius* (*Psecrocladius*) *octomoculatus* Wülker, 1956Kettani et al. 1995, **Rif**, Oued Mhajrat; Kettani et al. 1996; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012*Psecrocladius* (*Psecrocladius*) *sordidellus* (Zetterstedt, 1838)Azzouzi and Laville 1987, **MA**, Lac Aguelmane Azigza; Kettani et al. 2001; Kettani and Langton 2011, **AP**, marais de Loukous (NE Boucharene); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif***Psecrocladius* (*Psecrocladius*) *ventricosus* Kieffer, 1925Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012***Pseudosmittia* Edwards, 1932***Pseudosmittia albipennis* (Goetghebuer, 1921)Kettani and Moubayed-Breil 2018, **Rif***Pseudosmittia baueri* Strenzke, 1960Kettani and Moubayed-Breil 2018, **Rif***Pseudosmittia danconai* (Marcuzzi, 1947)Kettani and Moubayed-Breil 2018, **Rif***Pseudosmittia holsata* Thienemann & Stenzke, 1940Kettani and Moubayed-Breil 2018, **Rif**

*Pseudosmittia obtusa* Strenzke, 1960

Kettani and Moubayed-Breil 2018, **Rif**

*Pseudosmittia trilobata* Edwards, 1929

Kettani and Moubayed-Breil 2018, **Rif**

***Pseudorthocladius* Goetghebuer, 1943**

*Pseudorthocladius (Pseudorthocladius) berthelemyi* Moubayed, 1990

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Laville and Langton 2002; Kettani and Langton 2012; Ashe and O'Connor 2012; Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)

*Pseudorthocladius (Pseudorthocladius) curtistylus* (Goetghebuer, 1921)

Azzouzi et al. 1992, **HA**, Oasis Meski (1160 m); Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012

*Pseudorthocladius* near Pe 3 Langton 1991

Kettani and Langton 2011, **Rif**, Bouztate (Fifi); Kettani and Langton 2012

***Rheocricotopus* Brundin, 1956**

*Rheocricotopus (Psilocricotopus) atripes* (Kieffer, 1913)

= *Rheocricotopus (Psilocricotopus) foveatus* (Edwards, 1929), in Naya 1988: 40

Naya 1988, **MA**, Haut Sebou (Haut Guigou); Azzouzi et al. 1992, **HA**, Oued Tensift, Gorges de Dadès (Imdiazen, 1900 m); Kettani et al. 1994, **Rif**, Haut Laou, Oued Moulay Bouchta, aval Barrage Talembote, aval Oued Talembote (usine électrique), Oued Afertane; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Dakki 1997; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Talembote, Oued Tassikeste (Afechtal, 240 m), Oued Laou (Afertane, 56 m); Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Rheocricotopus (Psilocricotopus) chalybeatus* subsp. *chalybeatus* (Edwards, 1929)

Azzouzi and Laville 1987, **MA**, Oued Boufekrane, Oued Sebou, Oued Oumer-Rbia; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote, Oued Afertane, aval Oued Tassikeste, aval Oued Laou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis, Oued Martil (Tamuda); Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Tamaridine (Zaouiet et Habtiyiène, 819 m); Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Rheocricotopus (Psilocricotopus) gallicus* Lehamnn 1969

Kettani and Moubayed-Breil 2018, **Rif**

*Rheocricotopus (Psilocricotopus) glabricollis* (Meigen, 1830)

- Azzouzi and Laville 1987, **MA**, Oued Boufekrane; Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Ametrasse (Ametrasse, 820 m), Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Rheocricotopus (Psilocricotopus) meridionalis* Moubayed-Breil, 2016  
Kettani and Moubayed-Breil 2018, **Rif**
- Rheocricotopus (Psilocricotopus) tirolus* Lehmann, 1969  
Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, Oued Mhajrat; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Azzouzi et al. 1992, **HA**, Oued Tensift; Dakki 1997; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Rheocricotopus (Rheocricotopus) effusus* (Walker, 1856)  
Reiss 1977; Naya 1988, **MA**, Haut et Moyen Sebou; Fekhaoui et al. 1993; Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2010, **Rif**, Oued Tamaridine (Zaouiet et Habtiyiène, 819 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Rheocricotopus (Rheocricotopus) fuscipes* (Kieffer, 1909)  
Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani et al. 2010, **Rif**, Maggou (905 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Rheocricotopus (Rheocricotopus) rifensis* Moubayed & Kettani, 2019  
Moubayed-Breil and Kettani, **Rif**, Chrafate, Challal Sghir (Akchour)
- Synorthocladus* Thienemann, 1935**
- Synorthocladus semivirens* (Kieffer, 1909)  
Kettani et al. 1996; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Smittia* Holmgren, 1869**
- Smittia alpicola* Goetghebuer, 1941  
Kettani and Moubayed-Breil 2018, **Rif**
- Smittia aterrima* Meigen, 1818  
Kettani and Moubayed-Breil 2018, **Rif**
- Smittia contingens* Walker, 1856  
Kettani and Moubayed-Breil 2018, **Rif**
- Smittia foliacea* (Kieffer, 1921)  
Kettani and Moubayed-Breil 2018, **Rif**
- Smittia pratorum* Goetghebuer, 1927  
Kettani and Moubayed-Breil 2018, **Rif**
- Thienemannia* Kieffer, 1909**
- Thienemannia* cf. *fulvofasciata* (Kieffer, 1921)  
Kettani and Moubayed-Breil 2018, **Rif**



*Thienemannia gracilis* Kieffer, 1909

Kettani and Moubayed-Breil 2018, **Rif**

***Thienemanniella* Kieffer, 1911**

*Thienemanniella acuticornis* (Kieffer, 1912)

Fittkau and Reiss 1978; Azzouzi and Laville 1987, **MA**, Oued Oum-er-Rbia; Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Kelaâ (Akoumi, 400 m), Oued Talembote (320 m); Kettani and Langton 2011, **Rif**, Oued Hamma, Oued Ketama, Oued Sgara; Kettani and Langton 2012; Ashe and O'Connor 2012

*Thienemanniella clavicornis* (Kieffer, 1911)

Kettani and Moubayed-Breil 2018, **Rif**

*Thienemanniella majuscula* (Edwards, 1924)

Kettani et al. 1995, **Rif**, aval Oued El Kbir; Kettani et al. 1996; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Thienemanniella vittata* (Edwards, 1924)

Kettani et al. 1996, **Rif**, Haut Maggou; Kettani et al. 1997, **Rif**, Maggou (Oued Laou); Kettani et al. 2001; Kettani et al. 2010, **Rif**, Haut Maggou (1300 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Thienemanniella* Pe 2a Langton 1991

Kettani et al. 2010, **Rif**, Oued Maggou (905 m), Oued Kelaâ (Akoumi, 400 m), Oued Talembote; Kettani and Langton 2012

*Thienemanniella* Pe 2b Langton 1991

Kettani et al. 2010, **Rif**, Oued Maggou (905 m), Oued Talembote; Kettani and Langton 2012

***Trissocladius* Kieffer, 1908**

*Trissocladius brevipalpis* Kieffer in Kieffer & Thienemann 1908

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012

***Tvetenia* Kieffer, 1922**

*Tvetenia bavarica* (Goetghebuer, 1934)

Azzouzi and Laville 1987, **MA**, Oued Oum-er-Rbia; Kettani et al. 2001; Kettani and Langton 2012; Ashe and O'Connor 2012

*Tvetenia calvescens* (Edwards, 1929)

Naya 1988, **MA**, Moyen Sebou; Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Oued Talembote (usine électrique), Oued Afertane, aval Oued Tassikeste; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Oued

Tamaridine (Zaouiet et Habtiyiène, 819 m), Oued Talembote (245 m), Oued Laou (Afertane, 56 m); Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Tvetenia discoloripes* (Goetghebuer & Thienemann in Thienemann, 1936)

Kettani and Langton 2011, **Rif**, Oued Nakhla, Bouztate (Fifi); Kettani and Langton 2012; Ashe and O'Connor 2012

*Tvetenia verralli* (Edwards, 1929)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta; Kettani et al. 1995, **Rif**, aval Oued El Kbir, amont Oued Nakhla; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, ruisselet maison forestière Talas-semtane (1683 m), Oued Tamaridine (Zaouiet et Habtiyiène, 819 m), Oued Talembote (245 m), Oued Laou (Afertane, 56 m); Kettani and Langton 2012; Ashe and O'Connor 2012; Kettani and Moubayed-Breil 2018, **Rif**

### ***Zalutschia* Lipina, 1939**

*Zalutschia humphriesiae* Dowling & Murray, 1980

Kettani and Langton 2011, **Rif**, marais de Lemtahane (PNPB), Dayat Fifi; Kettani and Langton 2012; Ashe and O'Connor 2012

## Chironominae

### Chironomini

### ***Chironomus* Meigen, 1803**

*Chironomus* (*Baeotendipes*) *noctivagus* (Kieffer, 1911)

Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Chironomus* (*Chironomus*) *annularius* Meigen, 1818

Azzouzi and Laville 1987, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Chironomus* (*Chironomus*) *aprilinus* sensu Meigen, 1818

= *Chironomus halophilus* Kieffer, in Ramdani and Tourenq 1982: 180, in Naya 1988: 50

Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; Azzouzi and Laville 1987; Naya 1988, **MA**, Haut Sebou; Fekhaoui et al. 1993; Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Chironomus* (*Chironomus*) *bernensis* Klötzli, 1973

= *Chironomus* sp 1 Kettani 1994

Kettani et al. 1994; Kettani et al. 1996; Kettani et al. 2001; Dakki 1997; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Chironomus (Chironomus) calipterus* Kieffer, 1908

Reiss 1977, **AP**, Larache; Fittkau and Reiss 1978; Ramdani and Tourenq 1982 **AP**, Merja Sidi Boughaba; Azzouzi and Laville 1987; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Chironomus (Chironomus) longistylus* Goetghebuer, 1921

Kettani et al. 2011, **Rif**, Oued Ketama; Kettani and Langton 2012

*Chironomus (Chironomus) luridus* Strenzke, 1959

Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; Azzouzi and Laville 1987; Kettani et al. 2001; Kettani and Langton 2011, **Rif**, merja Mtalssi (Tamuda, 31 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Chironomus (Chironomus) nuditarsis* Keyl, 1961

Kettani et al. 2011, **Rif**, Oued Boujdad (Kitane, 42 m), Oued El Hatba (SIBE Jebel Moussa, 165 m); Kettani and Langton 2012, **Rif**, SIBE Jebel Moussa

*Chironomus (Chironomus) piger* (Strenzke, 1956)

Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; Azzouzi and Laville 1987; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Chironomus (Chironomus) plumosus* (Linnaeus, 1758)

Reiss 1977, **AP**, Larache, **AA**, Dra-Tal; Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; El Mezdi and Giudicelli 1985, **HA**, Khettaras de Marrakech; Azzouzi and Laville 1987; Naya 1988, **MA**, Sidi Abdellah, Dar Cheih Harazem, Dar El Arsa; Fekhaoui et al. 1993; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou; Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Kettani et al. 2010, **Rif**, Ain Tissmelal (Tissmelal, 1046 m); Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Chironomus (Chironomus) prasinus* sensu Pinder, 1978

Kettani et al. 2011, **Rif**, merja Mtalssi (Tamuda, 31 m); Kettani and Langton 2012

*Chironomus (Chironomus) riparius* Meigen, 1804

= *Chironomus thummi* Kieffer, in Naya 1988: 51, Fekhaoui et al. 1993: 26

Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; El Mezdi and Giudicelli 1985, **HA**, Khettaras de Marrakech; Azzouzi and Laville 1987, **MA**, Oued Boufekrane, Oued Fès, Oued Sebou; Naya 1988, **MA**, Moyen Sebou; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, aval Barrage Talembote; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m); Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Chironomus (Chironomus) salinarius* Kieffer, 1915

Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; Azzouzi and Laville 1987; Kettani et al. 2001; Kettani and Langton 2011, **Rif**, merja Mtalssi (Tamuda, 31 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Chironomus* (*Chironomus*) *tentans* Fabricius, 1805

= *Camptochironomus tentans* Fabricius, 1805, in Naya 1988: 50

Naya 1988, **MA**, Moyen Sebou; Kettani et al. 2001; Kettani and Langton 2012

***Cladopelma* Kieffer, 1921**

*Cladopelma virescens* (Meigen, 1818)

Kettani and Moubayed-Breil 2018, **Rif**

***Cryptochironomus* Kieffer, 1918**

*Cryptochironomus* (*Cryptochironomus*) *albofasciatus* (Staeger, 1839)

= *Cryptochironomus obreptans* Walker, 1856, in Kettani 1994: 28

Kettani et al. 1994, **Rif**, Oued Siflaou; Kettani et al. 1996; Kettani et al. 2001;

Dakki 1997; Kettani and Langton 2012

*Cryptochironomus* (*Cryptochironomus*) *psittacinus* (Meigen, 1830)

Kettani et al. 1996, **Rif**, Oued Nakhla; Kettani et al. 2001; Kettani and El

Ouazzani 2005, **Rif**, Oued Nakhla; Kettani and Langton 2012

*Cryptochironomus* (*Cryptochironomus*) *rostratus* Kieffer, 1921

El Mezdi and Giudicelli 1985, **HA**, Khettaras de Marrakech; Azzouzi and Laville

1987, **MA**, Oued Fès, Oued Sebou, oued Oum-er-Rbia, Oued Boufekrane, **HA**,

Oued Tensift; Kettani et al. 1994, **Rif**, Haut Laou, aval Oued Laou; Kettani et

al. 1995, **Rif**, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al.

2001; Kettani and El Ouazzani 2005, **Rif**, Oued Nakhla; Dakki et al. 2008, **MA**,

Oued Sebou; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Cryptochironomus* (*Cryptochironomus*) *supplicans* (Meigen, 1830)

Kettani and Moubayed-Breil 2018, **Rif**

*Cryptochironomus* Pe 5 Langton 1991

Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou; Kettani et al. 1996; Dakki

1997; Kettani et al. 2001; Kettani and Langton 2012

***Demicryptochironomus* Lenz, 1941**

*Demicryptochironomus* (*Demicryptochironomus*) *vulneratus* (Zetterstedt, 1838)

Kettani et al. 1994, **Rif**, Haut Laou; Kettani et al. 1996; Dakki 1997; Kettani

et al. 2001; Kettani et al. 2010, **Rif**, Nord Maggou village (Maggou, 905 m);

Kettani and Langton 2012

*Demicryptochironomus* (*Irmakia*) *neglectus* Reiss, 1988

Kettani and Moubayed-Breil 2018, **Rif**

*Demicryptochironomus* (*Irmakia*) Pe 1 Langton 1991

Kettani et al. 1995, **Rif**, aval Oued El Kbir, Oued El Kbir, aval Oued Khemis;

Kettani et al. 2001; Kettani and Langton 2012

***Dicrotendipes* Kieffer, 1913**

*Dicrotendipes collarti* (Goetghebuer, 1936)

El Mezdi and Giudicelli 1985, **HA**, Khettaras de Marrakech; Kettani et al.

2001; Kettani and Langton 2012

*Dicrotendipes cordatus* Kieffer, 1922

Kettani et al. 1996, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 1997, **Rif**,

Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani and Langton 2012

*Dicrotendipes fusconotatus* (Kieffer, 1922)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, aval Barrage Talembote; Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Dicrotendipes modestus* (Say, 1823)

Kettani et al. 2011, **Rif**, merja Mtalssi (Tamuda, 31 m); Kettani and Langton 2012

*Dicrotendipes nervosus* (Staeger, 1839)

= *Limnochironomus nervosus* Staeger, in Naya 1988: 53

Naya 1988, **MA**, Moyen Sebou (Sidi Abdellah); Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, aval Oued Khemis; Kettani et al. 1996; Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Dicrotendipes notatus* (Meigen, 1818)

Kettani and Moubayed-Breil 2018, **Rif**

*Dicrotendipes pallidicornis* (Goetghebuer, 1934)

Azzouzi and Laville 1987, **Rif**, Retenue El Makhazine, **MA**, Oued Boufekrane; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Dicrotendipes peringueyanus* Kieffer, 1924

Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, aval Barrage Talembote; Kettani et al. 1995, **Rif**, aval Oued Krikra, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m); Kettani and Langton 2012

*Dicrotendipes septemmaculatus* (Becker, 1908)

= *Dicrotendipes pilosimanus* Kieffer, in Reiss 1977: 91, Azzouzi and Laville 1987: 219

Reiss 1977, **AP**, Larache; Fittkau and Reiss 1978; Azzouzi and Laville 1987, **AP**, Larache; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, aval Barrage Talembote, aval Oued Laou; Kettani et al. 1995, **Rif**, aval Oued Krikra, amont Oued Nakhla, aval Oued Khemis, Oued Martil (Tamuda); Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m); Kettani and Langton 2012

***Endochironomus* Kieffer, 1918***Endochironomus albipennis* (Meigen, 1830)

Naya 1988, **MA**, Haut Sebou (Skhounata); Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012

*Endochironomus tendens* (Fabricius, 1775)

Naya 1988, **MA**, Moyen Sebou (Gantra Mdez, Azzaba); Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012

***Glyptotendipes* Kieffer, 1913***Glyptotendipes* (*Caulochironomus*) *viridis* (Macquart, 1834)Naya 1988, **MA**, Moyen Sebou; Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012*Glyptotendipes* (*Glyptotendipes*) *cauliginellus* (Kieffer, 1913)= *Glyptotendipes gripekoveni* (Kieffer)Naya 1988, **MA**, Haut Sebout (Guigou); Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012*Glyptotendipes* (*Glyptotendipes*) *pallens* (Meigen, 1804)Azzouzi and Laville 1987, **Rif**, Retenue El Makhazine; Naya 1988, **MA**, Moyen Sebou; Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012*Glyptotendipes* sp A Langton 1991Naya 1988, **MA**, Oued Sebou; Kettani et al. 2001; Kettani and Langton 2012*Glyptotendipes* sp B Langton 1991Naya 1988, **MA**, Oued Sebou; Kettani et al. 2001; Kettani and Langton 2012***Harnischia* Kieffer, 1921***Harnischia curtilamellata* (Malloch, 1915)Azzouzi and Laville 1987, **MA**, Oued Fès, Oued Sebou; Kettani et al. 1994, **Rif**, Oued Siflaou, Oued Afertane, aval Oued Laou; Kettani et al. 1995, **Rif**, amont Oued Nakhla, aval Oued Khemis, Oued Martil (Tamuda); Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Kettani et al. 2010, **Rif**, Source Maggou (Maggou, 1300 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif***Harnischia fuscimanus* Kieffer, 1921Azzouzi and Laville 1987, **Rif**, Retenue El Makhazine, **MA**, Oued Boufekrane; Kettani et al. 1995, **Rif**, Oued El Kbir, amont Oued Nakhla, aval Oued Khemis; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Laou (Afertane, 55 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif*****Kiefferulus* Goetghebuer, 1922***Kiefferulus* (*Kiefferulus*) *tendipediformis* (Goetghebuer, 1921)Reiss 1977, **Rif**, Tétouan; Fittkau and Reiss 1978; Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; Azzouzi and Laville 1987; Ashe and Cranston 1990; Kettani et al. 2010, **Rif**, Guelta 1 km après Amariguen (Jebel Set-sou, 1280 m); Kettani et al. 2001; Kettani and Langton 2011, **Rif**, Dayat Dalia (SIBE Jebel Moussa, 169 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif*****Kloosia* Kruseman, 1933***Kloosia pusilla* (Linnaeus, 1767)Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012

***Lauterborniella* Thienemann & Bause, 1913**

*Lauterborniella agrayloides* (Kieffer, 1911)

Naya 1988, **MA**, Haut Sebou; Kettani et al. 2001; Kettani and Langton 2012

***Microchironomus* Kieffer, 1918**

*Microchironomus deribae* (Freeman, 1957)

= *Leptochironomus deribae* Freeman, in Reiss 1977: 91, Ramdani and Tourenq 1982: 180

Reiss 1977, **AP**, Rabat; Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; Azzouzi and Laville 1987; Ashe and Cranston 1990; Kettani et al. 2001; Kettani and Langton 2012

*Microchironomus lendli* (Kieffer, 1918)

Reiss 1986, **AA**, Oasis Meski; Azzouzi and Laville 1987; Kettani et al. 2001; Kettani and Langton 2012

*Microchironomus tener* (Kieffer, 1918)

Kettani et al. 1994, **Rif**, Oued Siflaou; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Azzouzi et al. 1992, **HA**, Oued Tensift, Barrage Lalla Takerkoust; Kettani and Langton 2012

***Microtendipes* Kieffer, 1915**

*Microtendipes britteni* (Edwards, 1929)

Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote, aval Oued Talembote (usine électrique), Oued Afertane, aval Oued Laou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis, Oued Martil (Tamuda); Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m), Oued Talembote (aval affluent Talembote, 155 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2012

*Microtendipes chloris* (Meigen, 1818)

Kettani et al. 2011, **Rif**, Dayat En-Nâsser (Khandek En-Nâsser, 1177 m), source Bab Karn (Fifi, 1216 m), Dayat Fifi (1179 m); Kettani and Langton 2012

*Microtendipes confinis* (Meigen, 1830)

Kettani et al. 1996; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, Oued Nakhla; Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani and Langton 2012

*Microtendipes diffinis* (Edwards, 1929)

Reiss 1977, **AA**, Dra-Tal; Fittkau and Reiss 1978; Azzouzi and Laville 1987; Ashe and Cranston 1990; Kettani et al. 2001; Kettani et al. 2011, **Rif**, Dayat En-Nâsser (Khandek En-Nâsser, 1177 m), Dayat Aïn Rami, source Bab Karn (Fifi, 1216 m); Kettani and Langton 2012



*Microtendipes pedellus* (De Geer, 1776)

Reiss 1977, **Rif**, Environ de Tétouan; Fittkau and Reiss 1978; El Mezdi and Giudicelli 1985, **HA**, Khetaras de Marrakech; Azzouzi and Laville 1987, **Rif**, Tétouan, **HA**; Naya 1988, **MA**, Haut Sebou (amont Aïn Tadout, Skhounate, Arhbalou Aberchane); Ashe and Cranston 1990; Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

***Nubensia* Spies, 2015***Nubensia nubens* (Edwards, 1929)

= *Polypedilum nubens* (Edwards, 1929), in Azzouzi and Laville 1987: 219; Kettani et al. 1994: 28, 1995: 257, 1996: 137, 1997: 184, 2001: 331, 2010: 70; Dakki 1997: 65; Dakki et al. 2008: 32, Kettani and Langton 2012: 423

Azzouzi and Laville 1987, **MA**, Oued Sebou; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote, Oued Afertane, aval Oued Tassikeste, aval Oued Laou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis, Oued Martil (Tamuda); Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m), Oued Laou (Ifansa, 105 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

***Parachironomus* Lenz, 1921***Parachironomus frequens* (Johannsen, 1905)

Kettani et al. 1995, **Rif**, aval Oued Khemis; Kettani et al. 1996; Kettani et al. 2001; Kettani and Langton 2012

*Parachironomus parilis* (Walker, 1856)

Reiss 1977, **AP**, Environ de Larache; Azzouzi and Laville 1987, **MA**, Lac Aguelmane Azigza; Ashe and Cranston 1990; Kettani et al. 1995, **Rif**, aval Oued Khemis; Kettani et al. 1996; Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012

***Paracladopelma* Harnisch, 1923***Paracladopelma camptolabis* (Kieffer, 1913)

Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, aval Barrage Talembote; Kettani et al. 1995, **Rif**, aval Oued El Kbir, Oued Mhajrat, aval Oued Khemis, Oued Martil (Tamuda); Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Paracladopelma galaptera* (Townes, 1945)

Azzouzi et al. 1992, **HA**, Ouarzazate (1140 m), Gorges de Todra (1400 m); Kettani et al. 2001; Kettani and Langton 2012

*Paracladopelma graminicolor* (Kieffer, 1925)

= *Cryptotendipes graminicolor* (Kieffer), in Azzouzi et al. 1992: 230

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012

*Paracladopelma laminatum* (Kieffer, 1921)

Reiss 1977, **AA**, Dra-Tal; Fittkau and Reiss 1978; Azzouzi and Laville 1987; Ashe and Cranston 1990; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Paracladopelma mikianum* (Goetghebuer, 1937)

Kettani et al. 1996, **Rif**, Oued Nakhla; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

***Paralauterborniella* Lenz, 1941***Paralauterborniella nigrohalteralis* (Malloch, 1915)

Azzouzi and Laville 1987, **MA**, Oued Boufekrane, Oued Fès, Oued Sebou; Kettani et al. 2001; Kettani and Langton 2012

***Paratendipes* Kieffer, 1911***Paratendipes albimanus* (Meigen, 1818)

Naya 1988, **MA**, Moyen Sebou (Mdez); Kettani et al. 1994, **Rif**, aval Barrage Talembote; Kettani et al. 1995, **Rif**, aval Oued Krikra, Oued Mhajrat, aval Oued Khemis, Oued Laou (Tamuda); Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Paratendipes nudisquama* (Edwards, 1929)

Kettani and Moubayed-Breil 2018, **Rif**

*Paratendipes striatus* (Kieffer, 1925)

El Mezdi and Giudicelli 1985, **HA**, Khettaras de Marrakech; Kettani et al. 2001; Kettani and Langton 2012

***Phaenopsectra* Kieffer, 1921***Phaenopsectra flavipes* (Meigen, 1818)

Kettani et al. 1994, **Rif**, Haut Laou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, Oued Mhajrat; Kettani et al. 1996; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

***Polypedilum* Kieffer, 1912***Polypedilum* (*Pentapedilum*) *ruandae* Freeman, 1955

El Mezdi and Giudicelli 1985, **HA**, Khettaras de Marrakech; Kettani et al. 2001; Kettani and Langton 2012

*Polypedilum* (*Pentapedilum*) *sordens* (van der Wulp, 1875)

= *Polypedilum* sp 1, in Kettani et al. 1994: 28

Kettani et al. 1994, **Rif**, Oued Siflaou; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani

- and El Ouazzani 2005, **Rif**, Oued Nakhla; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Polypedilum (Pentapedilum) uncinatum* (Goetghebuer, 1921)  
Azzouzi and Laville 1987, **MA**, Oued Boufekrane, Oued Fès; Kettani et al. 2001; Kettani and Langton 2012
- Polypedilum (Polypedilum) albicorne* (Meigen, 1838)  
Naya 1988, **MA**, Haut Sebou; Kettani et al. 1995, **Rif**, aval Oued Krikra, aval Oued Khemis; Kettani et al. 1996; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Polypedilum (Polypedilum) arundineti* (Goetghebuer, 1921)  
Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, aval Oued Talembote (usine électrique); Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Talembote (aval affluent Talembote, 155 m); Kettani and Langton 2012
- Polypedilum (Polypedilum) laetum* (Meigen, 1818)  
Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Kelaâ (Akoumi, 400 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Polypedilum (Polypedilum) nubeculosum* (Meigen, 1804)  
Reiss 1977, **Rif**, Environ de Tétouan; Fittkau and Reiss 1978; Azzouzi and Laville 1987, **Rif**, Environ Tétouan, **MA**, Oued Sebou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, aval Oued Khemis, Oued Martil (Tamuda); Kettani et al. 1996; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Ashe and Cranston 1990; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Polypedilum (Polypedilum) nubifer* (Skuse, 1889)  
= *Polypedilum pharao* Kieffer, in Reiss 1977: 91, Naya 1998: 55, Ramdani and Tourenq 1982: 180  
Kügler and Wool 1968; Reiss 1977, **AP**, Larache, Rabat; Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; Azzouzi and Laville 1987, **AP**, Environ de Larache, Rabat, Merja Sidi Boughaba; Naya 1988, **MA**, Haut Sebou; Ashe and Cranston 1990; Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Polypedilum (Polypedilum) pedestre* (Meigen, 1830)  
Reiss 1977; Azzouzi and Laville 1987, **MA**, Oued Boufekrane; Kettani et al. 1994, **Rif**, aval Barrage Talembote; Kettani et al. 1995, **Rif**, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Kettani et al. 2005, **Rif**, Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Polypedilum (Tripodura) acifer* Townes, 1945

Reiss 1977, **AA**, Dra-Tal; Azzouzi and Laville 1987, **MA**, Oued Boufekroune, Oued Fès, Oued Sebou; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Maggou (Oued Laou); Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Talembote (aval affluent Talembote, 155 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2012

*Polypedilum (Tripodura) aegyptium* Kieffer, 1925

= *Polypedilum pruina* Freeman, in Reiss 1977: 91

Reiss 1977, **AP**, Larache, **HA**, Marrakech, **AA**, Dra-Tal; Reiss 1985; Azzouzi and Laville 1987, **AP**, Larache, **HA**, Marrakech, **AA**, Gorges de Todra; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, aval Oued Talembote (usine électrique), Oued Afertane; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis, Oued Martil (Tamuda); Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Tassikeste (Afechtal, 240 m); Kettani and Langton 2012

*Polypedilum (Tripodura) bicrenatum* Kieffer, 1921

Azzouzi and Laville 1987, **MA**, Oued Sebou; Kettani et al. 2001; Kettani and Langton 2012

*Polypedilum (Tripodura) pullum* (Zetterstedt, 1838)

El Mezdi and Giudicelli 1985, **HA**, Khettaras de Marrakech; Azzouzi and Laville 1987, **MA**, Oued Boufekrane, Oued Oum-er-Rbia, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012

*Polypedilum (Tripodura) quadriguttatum* Kieffer, 1921

Naya 1988, **MA**, Moyen Sebou; Kettani et al. 1995, **Rif**, aval Oued Khemis; Kettani et al. 1996; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012

*Polypedilum (Tripodura) scalaenum* (Schränk, 1803)

Reiss 1977, **AA**, Dra-Tal; Fittkau and Reiss 1978; Azzouzi and Laville 1987; Kettani et al. 1996, **Rif**, Ras el Ma (Chefchaouen); Ashe and Cranston 1990; Kettani et al. 2001; Kettani and Langton 2012

*Polypedilum (Tripodura) tetracrenatum* Hirvenoja, 1962

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012

*Polypedilum (Tripodura) tridens* Freeman, 1955

El Mezdi and Giudicelli 1985, **HA**, Khettaras de Marrakech; Kettani et al. 2001; Kettani and Langton 2012

*Polypedilum (Uresipedilum) convictum* (Walker, 1856)

Reiss 1977, **AP**, Environ de Larache; Fittkau and Reiss 1978; Azzouzi and Laville 1987, **MA**, Oued Boufekrane (Gantra Mdez), Naya 1988, **MA**, Haut Sebou; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote, aval Oued Tassikeste; Kettani et al. 1995, **Rif**, aval Oued El

- Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, Oued Nakhla; Dakki et al. 2008, **MA**, Oued Sebou; Kettani et al. 2010, **Rif**, Oued pont Béni M'Hamed (Béni M'Hamed, 1330 m), Oued Talembote (avant village Talembote, 320 m), Oued Talembote (aval Barrage Talembote, 245 m), Oued Tassikeste (Afechtal, 240 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Polypedilum (Uresipedilum) cultellatum* Goetghebuer, 1931  
Fittkau and Reiss 1978; Azzouzi and Laville 1987, **MA**, Oued Oum-er-Rbia; Kettani et al. 1996, **Rif**, Oued Nakhla; Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, Oued Nakhla; Kettani and Langton 2012
- Polypedilum ontario*-group sp. 1  
Kettani et al. 1995, **Rif**, aval Oued Khemis; Kettani et al. 1996; Kettani et al. 2001; Kettani and Langton 2012
- Rheomus* Laville & Reiss, 1988**
- Rheomus alatus* Laville & Reiss, 1988  
Azzouzi and Laville 1987, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012
- Rheomus yahiae* Laville & Reiss, 1988  
Azzouzi and Laville 1987, **MA**, Oued Fès; Kettani et al. 2001; Kettani and Langton 2012
- Stenochironomus* Kieffer, 1919**
- Stenochironomus gibbus* Fabricius, 1794  
Kettani and Moubayed-Breil 2018, **Rif**
- Stictochironomus* Kieffer, 1919**
- Stictochironomus cafferarius* (Kieffer, 1921)  
Reiss 1977; Azzouzi and Laville 1987; Kettani et al. 2001; Kettani and Langton 2012
- Stictochironomus maculipennis* (Meigen, 1818)  
Azzouzi and Laville 1987, **MA**, Oued Sebou; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Afertane; Kettani et al. 1995, **Rif**, aval Oued Khemis, Oued Martil (Tamuda); Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Laou (Afertane, 55 m); Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Stictochironomus pictulus* (Meigen, 1830)  
Reiss 1977, **AP**, Environ de Larache; Fittkau and Reiss 1978; Azzouzi and Laville 1987; Ashe and Cranston 1990; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou; Kettani et al. 1995, **Rif**, aval Oued Kbir, aval Oued Krikra, Oued El Kbir; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Oued

- Khizana (Oued Laou); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, Oued Nakhla; Kettani and Langton 2012
- Stictochironomus rosenschoeldi* Zetterstedt, 1838  
Kettani and Moubayed-Breil 2018, **Rif**
- Stictochironomus reissi* Cranston, 1989  
= *Stictochironomus* sp. nov. Reiss, in Reiss 1977: 91  
Reiss 1977; Azzouzi and Laville 1987, **AA**, M'Hamid, Dra-Tal; Kettani et al. 2001; Kettani and Langton 2012
- Stictochironomus sticticus* (Fabricius, 1781)  
= *Stictochironomus hystrio* (Fabricius, 1794), in Kettani et al. 1996: 138  
Azzouzi and Laville 1987, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2011, **Rif**, Oued Berranda (Bouztate, 1259 m), Dayat Dalia (SIBE Jebel Moussa); Kettani et al. 2010, **Rif**, Oued Kelaâ (Akoumi, 400 m); Kettani and Langton 2012
- Stictochironomus* Pe 2 Langton 1991  
Kettani et al. 2001
- Xenochironomus* Kieffer, 1921**
- Xenochironomus xenolabis* (Kieffer, 1916)  
Azzouzi and Laville 1987, **MA**, Oued Fès; Kettani et al. 2001; Kettani and Langton 2012

## Tanytarsini

### ***Cladotanytarsus* Kieffer, 1921**

- Cladotanytarsus* (*Cladotanytarsus*) *atridorsum* Kieffer, 1924  
Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; Azzouzi and Laville 1987; Azzouzi et al. 1992, **HA**, Aït Saoun, Gorges de Dadès (1900 m), vallée de Drâa, Marrakech; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, aval Barrage Talembote, aval Oued Laou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, amont Oued Nakhla, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Cladotanytarsus* (*Cladotanytarsus*) *capensis* (Freeman, 1954)  
El Mezdi and Giudicelli 1985, **HA**, Khettaras de Marrakech; Kettani et al. 2001; Kettani and Langton 2012
- Cladotanytarsus* (*Cladotanytarsus*) *ecristatus* Reiss, 1991  
= *Tanytarsus* sp. nov. (Morokko) Reiss, in Azzouzi and Laville 1987: 219  
Reiss 1977, **AA**, Dra-Tal; Azzouzi and Laville 1987, **EM**, Berkane; Reiss 1991; Azzouzi et al. 1992, **HA**; Kettani et al. 2001; Kettani and Langton 2012
- Cladotanytarsus* (*Cladotanytarsus*) *mancus* (Walker, 1856)  
Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; Azzouzi and Laville 1987; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Cladotanytarsus* (*Cladotanytarsus*) *pallidus* Kieffer, 1922

= *Cladotanytarsus* Pe 5 Langton 1984

Azzouzi and Laville 1987, **MA**, Oued Sebou, Oum Rbia; Kettani et al. 2001; Kettani and Langton 2012

*Cladotanytarsus* (*Cladotanytarsus*) *vanderwulpi* (Edwards, 1929)

Azzouzi and Laville 1987, **HA**, Oued Tensift; Kettani et al. 1995, **Rif**, aval Oued El Kbir, Oued Mhajrat, Oued Martil (Tamuda); Kettani et al. 1996; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

***Lithotanytarsus* Thienemann, 1933**

*Lithotanytarsus* *dadesi* Reiss, 1991

Reiss 1991; Azzouzi et al. 1992, **HA**, Gorges de Dadès (Imdiazen, 1900 m); Kettani et al. 1994, **Rif**, aval Oued Talembote (usine électrique), Oued Afer-tane; Kettani et al. 1995, **Rif**, Oued Mhajrat; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Tassikeste (Afechtal, 240 m), Oued Talembote (aval affluent Talembote, 155 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Lithotanytarsus* *emarginatus* (Goetghebuer, 1933)

Azzouzi and Laville 1987, **MA**, Oued Oum-er-Rbia; Kettani and Langton 2012

***Micropsectra* Kieffer, 1909**

*Micropsectra* *andalusiaca* Marcuzzi, 1950

Kettani and Moubayed-Breil 2018, **Rif**

*Micropsectra* *apposita* (Walker, 1856)

= *Micropsectra* *contracta* Reiss, 1965

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, aval Oued Talembote (usine électrique); Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Chrafat (Armotah, 900 m), Oued Kelaâ (Akoumi, 400 m), Oued Talembote (aval affluent Talembote, 155 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Micropsectra* *aristata* Pinder, 1976

Kettani and Langton 2012, **Rif**, Oued Zarka

*Micropsectra* *atrofasciata* (Kieffer, 1911)

= *Micropsectra* *bidentata* (Goetghebuer, 1921), in Azzouzi et al. 1992: 230; Kettani et al. 2001: 332; Kettani and Langton 2011: 590, 2012: 424

Fittkau and Reiss 1978; El Mezdi and Giudicelli 1985, **HA**, Khettaras de Marrakech; Azzouzi and Laville 1987, **MA**, Oued Sebou (Arhbalou Aberchane), Oued Oum-er-Rbia; Naya 1988, **MA**, Haut Sebou; Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Oued Talembote (usine électrique); Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Oued Khi-



- zana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Madissouka (Talassemthane, 1530 m), Oued Chrafat (Armotah, 900 m), Oued Kelaâ (Akoumi, 400 m), Oued Talembote (aval affluent Talembote, 155 m); Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2011, **Rif**, Oued Taida (Moulay Abdelsalam, 650 m), cascade Zarka, Dayat En-Nâsser (Khandek En-Nâsser, 1177 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Micropsectra junci* (Meigen, 1818)  
Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Micropsectra lacustris* Säwedat, 1975  
Kettani and Langton 2012, **Rif**, Oued Zarka
- Micropsectra lindrothi* Goetghebuer, 1931  
Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Micropsectra notescens* (Walker, 1856)  
Kettani et al. 2010, **Rif**, Oued Talembote (aval affluent Talembote, 155 m); Kettani and Langton 2011, **Rif**, Oued Ketama, Oued Sgara, ruisseau Bab Tariouant, Oued Berranda (Bouztate, 1259 m), source Bab Karn (Fifi, 1220 m), Dayat Fifi (Fifi, 1179); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Micropsectra pallidula* (Meigen, 1830)  
Kettani and Moubayed-Breil 2018, **Rif**
- Micropsectra schrankelae* Stur & Ekrem, 2006  
Kettani and Moubayed-Breil 2018, **Rif**
- Micropsectra zernyi* Marcuzzi, 1950  
Kettani and Moubayed-Breil 2018, **Rif**
- Paratanytarsus* Thienemann & Bause, 1913**
- Paratanytarsus bituberculatus* (Edwards, 1929)  
Azzouzi et al. 1992, **MA**, Lac Aguelmane Azigza (1510 m); Kettani et al. 1995, **Rif**, Oued Martil (Tamuda); Kettani et al. 1996; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani and Langton 2012
- Paratanytarsus dissimilis* (Johannsen, 1905)  
= *Paratanytarsus confusus* Palmén, 1960, in Naya 1988: 40; Dakki et al. 2008: 32; Kettani et al. 2001: 332; Kettani and Langton 2012: 423  
Naya 1988, **MA**, Haut Sebou; Dakki et al. 2008, **MA**, Oued Sebou; Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Paratanytarsus grimmii* (Schneider, 1885)  
Kettani et al. 2010, **Rif**, Oued Laou (Afertane, 55 m); Kettani and Langton 2012

*Paratanytarsus inopertus* (Walker, 1856)

Reiss 1977, **Rif**, Environ Tétouan; Fittkau and Reiss 1978; Reiss and Säwedal 1981; Azzouzi and Laville 1987; Ashe and Cranston 1990; Kettani et al. 2001; Kettani and Langton 2011, **Rif**, merja Mtalssi (Tamuda, 31 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Paratanytarsus mediterraneus* Reiss & Säwedal, 1981

Reiss and Säwedal 1981, **Rif**, Estuaire Oued Mharka (Tanger), **AP**, Oued Loukous; Azzouzi and Laville 1987; Ashe and Cranston 1990; Kettani et al. 2001; Kettani and Langton 2011, **AP**, marais de Loukous; Kettani and Langton 2012

*Paratanytarsus tenellulus* (Goetghebuer, 1921)

= *Microspsectra tenellula* Reiss 1977: 91; Azzouzi and Laville 1987: 219

Reiss 1977, **MA**, Lac Kranichsee; Fittkau and Reiss 1978; Azzouzi and Laville 1987; Ashe and Cranston 1990; Kettani et al. 2001; Kettani and Langton 2012

*Paratanytarsus tenuis* (Meigen, 1830)

= *Tanytarsus tenuis* Meigen, in Naya 1988: 57

Naya 1988, **MA**, Moyen Sebou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Oued Khizana (Oued Laou); Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012

***Rheotanytarsus* Thienemann & Bause, 1913***Rheotanytarsus ceratophylli* Dejoux, 1973

Naya 1988, **MA**, Moyen et Bas Sebou; Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012

*Rheotanytarsus curtistylus* (Goetghebuer, 1921)

Azzouzi et al. 1992, **HA**, Oasis Meski (1160 m); Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Rheotanytarsus langtoni* Moubayed & Kettani, 2018

Moubayed-Breil and Kettani 2018, **Rif**, Oued Farda; Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)

*Rheotanytarsus muscicola* Thienemann, 1929

Reiss 1977, **AP**, Environ de Larache, **AA**, Dra-Tal (Tissint Moyen Dra); Fittkau and Reiss 1978; Azzouzi and Laville 1987; Ashe and Cranston 1990; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Rheotanytarsus nigricauda* Fittkau, 1960

Kettani and Moubayed-Breil 2018, **Rif**

*Rheotanytarsus pellucidus* (Walker, 1818)

= *Rheotanytarsus distinctissimus* (Brundin, 1947), in Kettani et al. 1995: 258; Kettani et al. 1996: 138, 1997: 185; Kettani and Langton 2012: 424

Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra; Kettani et al. 1996; Kettani et al. 1997, **Rif**, Maggou (Oued Laou); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Rheotanytarsus pentapoda* (Kieffer, 1909)

= *Rheotanytarsus* sp 1, in Kettani et al. 1994: 28

Kettani et al. 1994, **Rif**, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote; Kettani et al. 1995, **Rif**, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis; Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Source Maggou (Maggou, 1300 m), Oued Talembote (avant village Talembote, 320 m), Oued Talembote (aval Barrage Talembote, 245 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**; Moubayed-Breil and Kettani 2019, **Rif**, Chrafate, Challal Sghir (Akchour)

*Rheotanytarsus photophilus* (Goetghebuer, 1921)

Naya 1988, **MA**, Haut Sebou; Kettani et al. 2001; Kettani and Langton 2012

*Rheotanytarsus procerus* Reiss, 1991

Reiss 1991, **HA**; Azzouzi et al. 1992, **HA**, Gorges de Dadès (Imdiazen, 1900 m); Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Rheotanytarsus reissi* Lehmann, 1970

Lehmann, 1970; Azzouzi and Laville 1987, **MA**, Oued Boufekrane, Oued Oum-er-Rbia; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote, aval Oued Talembote (usine électrique), Oued Afertane, aval Oued Tassikeste, aval Oued Laou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis, Oued Martil (Tamuda); Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Source Maggou (Maggou, 1300 m), Oued Kelaâ (Akoumi, 400 m), Oued Talembote (aval Barrage Talembote, 245 m), Oued Tassikeste (Afechtal, 240 m), Oued Talembote (aval affluent Talembote, 155 m), Oued Laou (Afertane, 55 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Rheotanytarsus rhenanus* Klink, 1983

Kettani and Moubayed-Breil 2018, **Rif**

*Rheotanytarsus ringei* Lehmann, 1970

Lehmann, 1970; Reiss 1977, **Rif**, Environ Tétouan; Fittkau and Reiss 1978; Azzouzi and Laville 1987, **Rif**, Tétouan, **MA**, Oued Boufekrane, Oued Fès, Oued Sebou, Oued Oum-er-Rbia; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Rheotanytarsus* Pe 3 Langton 1991

Kettani et al. 2010; Kettani and Langton 2011, **Rif**, Oued Sgara (Ketama, 1300 m); Kettani and Langton 2012

***Stempellina* Thienemann & Bause, 1913***Stempellina almi* Brundin, 1947

Fittkau and Reiss 1978; Azzouzi and Laville 1987, **MA**, Oued Boufekrane;  
Kettani et al. 2001; Kettani and Langton 2012

*Stempellina bausei* (Kieffer, 1911)

Kettani and Langton 2012, **Rif**, Ketama; Kettani and Moubayed-Breil 2018, **Rif**

***Stempellinella* Brundin, 1947***Stempellinella brevis* (Edwards, 1929)

Kettani et al. 2010, **Rif**, Oued Kelaâ (Akoumi, 400 m); Kettani and Langton 2012

***Tanytarsus* van der Wulp, 1874***Tanytarsus brundini* Lindeberg, 1963

Kettani et al. 1994, **Rif**, Oued Moulay Bouchta, aval Oued Laou; Kettani et al. 1995, **Rif**, amont Oued Nakhla, aval Oued Khemis; Kettani et al. 1996; Kettani et al. 2001; Dakki 1997; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Tanytarsus chinyensis* Goetghebuer, 1934

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2011, **Rif**, Dayat Fifi (Fifi, 1179 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Tanytarsus cretensis* Reiss, 1987

= *Tanytarsus* sp. nov. (*creticus*), in Reiss 1977: 91; Azzouzi and Laville 1987: 219

= *Cladotanytarsus* sp 1, in Kettani et al. 1995: 258

Reiss and Fittkau 1971; Reiss 1977, **EM**, Environ de Berkane; Reiss 1987; Azzouzi and Laville 1987, **Rif**, Tétouan, **AP**, Larache, Kénitra; Kettani et al. 1996; Kettani et al. 2001; Kettani and Langton 2012

*Tanytarsus dibranchius* Kieffer, 1926

= *Tanytarsus separabilis* Brundin, 1947, in Kettani et al. 1994: 29; Kettani et al. 1995: 258, 1996: 138, 2001: 332; Dakki 1997: 63; Kettani and Langton 2012: 424

Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, aval Barrage Talembote, aval Oued Talembote (usine électrique); Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis, Oued Martil (Tamuda); Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Kettani and Langton 2012

*Tanytarsus ejuncidus* (Walker, 1856)

Kettani and Moubayed-Breil 2018, **Rif**

*Tanytarsus eminulus* (Walker, 1856)

Kettani et al. 2010, **Rif**, Oued Kelaâ (Akoumi, 400 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Tanytarsus formosanus* Kieffer, 1912

= *Tanytarsus horni* Goetghebuer, 1934, in Reiss and Fittkau 1971: 122; Reiss 1977: 91; Fittkau and Reiss 1978: 439; Ramdani and Tourenq 1982: 180;

El Mezdi and Giudicelli 1985: 292; Azzouzi and Laville 1987: 219; Ashe and Cranston 1990: 341; Kettani et al. 2001: 332; Kettani and Langton 2012: 424

Reiss and Fittkau 1971, **Rif**, M'Diq; Reiss 1977, **Rif**, Environ Tétouan, **AP**, Larache, Rabat, Kénitra; Fittkau and Reiss 1978; Ramdani and Tourenq 1982, **AP**, Merja Sidi Boughaba; El Mezdi and Giudicelli 1985, **HA**, Khetaras de Marrakech; Azzouzi and Laville 1987, **HA**, Oued Tensift; Ashe and Cranston 1990; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Tanytarsus gregarius* Kieffer, 1909

Naya 1988, **MA**, Moyen Sebou; Kettani et al. 2001; Dakki et al. 2008, **MA**, Oued Sebou; Kettani and Langton 2012

*Tanytarsus heusdensis* Goetghebuer, 1923

Reiss 1977, **AA**, Dra-Tal; Fittkau and Reiss 1978; Azzouzi and Laville 1987; Ashe and Cranston 1990; Kettani et al. 1994, **Rif**, aval Oued Talembote (usine électrique); Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani et al. 2010, **Rif**, Oued Kelaâ (Akoumi, 400 m), Oued Talembote (avant village Talembote, 320 m), Oued Talembote (aval affluent Talembote, 155 m), Oued Laou (Ifansa, 105 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Tanytarsus mendax* Kieffer, 1925

Kettani and Moubayed-Breil 2018, **Rif**

*Tanytarsus medius* Reiss & Fittkau, 1971

Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote, aval Oued Laou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, aval Oued Krikra, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis, Oued Martil (Tamuda); Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m), Oued Talembote (aval affluent Talembote, 155 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Tanytarsus palettaris* Verneaux, 1969

Kettani et al. 1994, **Rif**, aval Oued Laou; Kettani et al. 1996; Dakki 1997; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Tanytarsus pallidicornis* (Walker, 1856)

Kettani and Langton 2011, **Rif**, Dayat Fifi (Fifi, 1179 m), Oued El Hatba (SIBE Jebel Moussa, 165 m); Kettani and Langton 2012

*Tanytarsus recurvatus* Brundin, 1947

Kettani and Langton 2011, **Rif**, Oued El Hamma (El Hamma, 240 m); Kettani and Langton 2012

*Tanytarsus signatus* (van der Wulp, 1859)

= *Tanytarsus* Pe 5 Langton 1991, in Azzouzi and Laville 1987: 219

Kügler and Reiss 1973; Reiss 1977, **AA**, Dra-Tal; Azzouzi and Laville 1987; Kettani et al. 2001; Kettani and Langton 2011, **Rif**, Dayat Aïn Rami (373 m), Dayat Amlay (258 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Tanytarsus verralli* Goetghebuer, 1928

Kettani and Langton 2011, **Rif**, Oued Taida (650 m); Kettani and Langton 2012

*Tanytarsus volgensis* Miseiko, 1967

= *Tanytarsus fimbriatus* Reiss & Fittkau, 1971, in Fittkau and Reiss 1978: 439; Azzouzi and Laville 1987: 219; Kettani et al. 2001: 332; Kettani and Langton 2012: 424 Fittkau and Reiss 1978; Azzouzi and Laville 1987, **MA**, Oued Fès, Oued Sebou, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Tanytarsus* Pe 14 Langton 1991

Kettani and Langton 2011, **Rif**, source Issaguen (Ketama, 1600 m); Kettani and Langton 2012

*Tanytarsus* Pe 23 Langton 1991

Kettani and Langton 2011, **Rif**, Oued El Hamma (El Hamma, 240 m); Kettani and Langton 2012

***Virgatanytarsus* Pinder, 1982***Virgatanytarsus albisutus* (Santos-Abreu, 1918)

= *Virgatanytarsus maroccanus* Kügler and Reiss, in Azzouzi and Laville 1987: 219 Fittkau and Reiss 1978; Reiss and Schurch 1984, **AA**, Dra-Tal; Reiss 1986; Azzouzi and Laville 1987, **MA**, Oued Oum-er-Rbia, **AA**, Dra-Tal; Ashe and Cranston 1990; Kettani et al. 1994, **Rif**, Haut Laou, Oued Siflaou, Oued Moulay Bouchta, aval Barrage Talembote, aval Oued Talembote (usine électrique), Oued Afertane, aval Oued Tassikeste, aval Oued Laou; Kettani et al. 1995, **Rif**, aval Oued El Kbir, Oued El Kbir, amont Oued Nakhla, Oued Mhajrat, aval Oued Khemis, Oued Martil (Tamuda); Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou), Ras el Ma (Chefchaouen); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani et al. 2010, **Rif**, Oued Talembote (aval Barrage Talembote, 245 m), Oued Talembote (aval affluent Talembote, 155 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**

*Virgatanytarsus ansatus* Reiss & Schürch, 1984

Reiss and Schurch 1984, **HA**; Azzouzi and Laville 1987, **MA**, Lac Aguelmane Azigza; Ashe and Cranston 1990; Kettani et al. 2001; Kettani and Langton 2012

*Virgatanytarsus arduennensis* (Goetghebuer, 1922)

Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 1994, **Rif**, aval Oued Talembote (usine électrique); Kettani et al. 1996; Dakki 1997; Kettani et al. 1997, **Rif**, Maggou (Oued Laou); Kettani et al. 2001; Kettani et al. 2010,

- Rif**, Oued Talembote (aval affluent Talembote, 155 m); Kettani and Langton 2012; Kettani and Moubayed-Breil 2018, **Rif**
- Virgatanytarsus triangularis* (Goetghebuer, 1928)  
Azzouzi et al. 1992, **HA**, Oued Tensift; Kettani et al. 2001; Kettani and Langton 2012
- Virgatanytarsus* Pe 1 Langton 1991  
Kettani et al. 1996; Kettani et al. 1997, **Rif**, Maggou (Oued Laou), Oued Khizana (Oued Laou); Kettani et al. 2001; Kettani and El Ouazzani 2005, **Rif**, amont Oued Nakhla; Kettani and Langton 2012
- Zavrelia* Kieffer, Thienemann & Bause, 1913**
- Zavrelia pentatoma* Kieffer & Bause, 1913  
Kettani and Langton 2012
- Zavrelia* Pe 1 Langton, 1991  
Kettani and Langton 2011, **Rif**, Oued Berranda (Bouztate, 1259 m); Kettani and Langton 2012

## Acknowledgment

We gratefully acknowledge the invaluable assistance and cooperation of Patrick Ashe (Dublin, Ireland) who contributed greatly to the revision of this family.

## SIMULIIDAE

K. Kettani

Number of species: **43**.

Faunistic knowledge of the family in Morocco: good

Simulinae

Prosimuliini

### ***Helodon* Enderlein, 1921**

*Helodon laamii* (Beaucournu-Saguez and Bailly-Choumara, 1981)

Beaucournu-Saguez and Bailly-Choumara 1981, **Rif**; Clergue-Gazeau et al. 1991; Hervy et al. 1994; Belqat et al. 2001a; Belqat 2002; Belqat and Dakki 2004; Dakki et al. 2008, **MA**, Oued Sebou; Belqat et al. 2011, **Rif**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

### ***Prosimulium* Roubaud, 1906**

*Prosimulium hirtipes* species group

Bailly-Choumara and Beaucournu-Saguez 1981: 53–54: groupe *latimucro* (species nova ?); Beaucournu-Saguez and Bailly-Choumara 1981: 119: groupe *latimucro*, groupe *tomosvaryi* and groupe *rufipes-hirtipes*; Clergue-Gazeau et al. 1991: 54 as «sp. gr. *Hirtipes*»



*Prosimulium latimucro* (Enderlein, 1925)<sup>4</sup>

Bailly-Choumara and Beaucournu-Saguez 1981; Beaucournu-Saguez and Bailly-Choumara 1981; Giudicelli and Thiery 1985, **HA**; Giudicelli and Bouzidi 1989, **HA**; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisseau émissaire de source débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'goun (1530 m), Oued M'Goum en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Adler and Belqat 2001, **Rif**, Oued Iouchirene, Oued Ketama (Al Hoceima); Belqat et al. 2001a, **Rif**, **HA**; Belqat and Adler 2001, **Rif**, Aïn Khandek En Nâsser,

4 *Prosimulium latimucro* (Enderlein, 1925) is a species complex, but only one cytoform has been found in Morocco. It is called *Prosimulium latimucro* cytoform C Kúdela, Kúdelová & Adler, 2017 (Arrondo and de Blas Giral 2017: 16).

Oued Iouchirene, Oued Ketama; Belqat 2002, **Rif**; Belqat and Dakki 2004, **Rif**; Belqat et al. 2005, **Rif**; Koçak and Kemal 2010; Belqat et al. 2011; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Prosimulium rachiliense* Djafarov, 1954 (complex)<sup>5</sup>

Beaucournu-Saguez and Bailly-Choumara 1981; Adler and Belqat 2001; Belqat and Adler 2001; Belqat 2002; Belqat and Dakki 2004; Belqat et al. 2005; Belqat et al. 2008; Belqat et al. 2011; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Prosimulium tomosvaryi* (Enderlein, 1921)

Beaucournu-Saguez and Bailly-Choumara 1981; Giudicelli and Thiery 1985, **HA**; Giudicelli and Bouzidi 1989, Giudicelli et al. 2000; Adler and Belqat 2001, **Rif**, Oued Iouchirene (Al Hoceima); Belqat and Adler 2001, **Rif**, Oued Ouringa Tamdâ, oued Iouchirene, Oued Mrinet, Oued Ketama, Aîn Ksour, Oued Tisgris, Aîn Sidi Brahim Ben Arrif, Oued Hannacha; Belqat et al. 2001a, **Rif**; Belqat et al. 2001b; Belqat and Dakki 2004, **Rif**; Belqat et al. 2005, **Rif**; Koçak and Kemal 2010; Belqat et al. 2011; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

***Urosimulium* Contini, 1963**

*Urosimulium faurei* (Bernard, Grenier & Bailly-Choumara, 1972)

Grenier et al. 1957, **MA**; Bernard et al. 1972: 63–68 (original description), **MA**, Plateau de Talerhza (environ de Meknès); Clergue-Gazeau et al. 1991, **MA**; Hervy et al. 1994; Belqat and Adler 2001, **Rif**, Oued Iouchirene, Oued Mrinet, Oued Biyada, Oued Hannacha, Oued Ankouda; Belqat et al. 2001a, **Rif**, **MA**; Belqat 2002, **Rif**, **MA**; Belqat and Dakki 2004, **Rif**; Belqat et al. 2005, **Rif**; Dakki et al. 2008, **MA**, Oued Sebou; Belqat et al. 2011, **Rif**, **MA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

## Simuliini

***Greniera* Doby & David, 1959**

*Greniera fabri* Doby & David, 1959

Clergue-Gazeau et al. 1991, **MA**; Dakki 1997; Belqat et al. 2001a, **Rif**; Belqat 2002, **Rif**; Belqat and Dakki 2004, **Rif**; Belqat et al. 2005, **Rif**; Dakki et al. 2008, **MA**, Oued Sebou; Belqat et al. 2011, **Rif**, **MA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

***Metacnephia* Crosskey, 1969**

*Metacnephia blanci* (Grenier & Théodoridès, 1953)

= *Cnephia* sp. in Grenier 1953: 157

<sup>5</sup> The original reports of *Prosimulium rachiliense* in Morocco appeared under the name *P. rufipes*. The chromosomes described by Adler and Belqat (2001), however, indicate that populations in Morocco's Rif Mountains are not *P. rufipes*, but are a species closer to *P. rachiliense* (Belqat et al. 2018; Adler and Şirin 2014).

- = *Cnephia blanci* Grenier and Théodoridès, in Grenier and Théodoridès 1953: 430–435
  - = *Eusimulium latinum* Rubzov, in Benhoussa et al. 1988: 160–164
- Grenier 1953, **HA**; Grenier and Théodoridès 1953, **HA**; Grenier et al. 1957, **MA**; Bailly-Choumara and Beaucournu-Saguez 1978, **Rif**; Bailly-Choumara and Beaucournu-Saguez 1981, **HA**; Benhoussa et al. 1988, **AP**, Oued Bou-Regreg; Clergue-Gazeau et al. 1991, **AA**; Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisseau émissaire de source débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane: 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'goun (1530 m), Oued M'goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **Rif**, **MA**, **HA**, **AA**; Belqat 2002, **Rif**, **MA**, **HA**, **AA**; Belqat and Dakki 2004, **Rif**; Belqat et al. 2005, **Rif**; Belqat et al. 2008; Dakki et al. 2008, **MA**, Oued Sebou; Belqat et al. 2011, **Rif**, **AP**, **MA**, **HA**, **AA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Metacnephia nuragica* Rivosecchi, Raastad & Contini, 1975<sup>6</sup>

= *Cnephia tredecimatum* (Edwards), in Grenier et al. 1957: 226

Grenier et al. 1957, **AP**, Coastal meseta (region of Rabat); Belqat et al. 2001a, **AP**, Rabat; Belqat 2002, **AP**, Rabat; Belqat and Dakki 2004, **AP**, Rabat; Belqat et al. 2011, **AP**; Belqat et al. 2018

***Simulium* Latreille, 1802**

*Simulium* (*Crosskeyellum*) *gracilipes* Edwards, 1921

Edwards 1921: 143 (original description), **MA**; Séguy 1925: 233, **MA**; Séguy 1930a, **MA**; Grenier 1953, **MA**; Crosskey 1964, **MA**, Fès; Grenier and Bailly-Choumara 1970: 96–102 (original description of subgenus *Crosskeyellum*, description of *gracilipes*), **MA**; Clergue-Gazeau et al. 1991, **MA**; Hervy et al. 1994; Dakki 1997; Belqat et al. 2001a, **MA**; Belqat 2002, **MA**; Belqat and Dakki 2004, **MA**; Belqat et al. 2011, **MA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium* (*Eusimulium*) *angustipes* Edwards, 1915

Clergue-Gazeau et al. 1991, **MA**, **HA**; Dakki 1997; Belqat et al. 2001a, **MA**, **HA**; Belqat 2002, **MA**, **HA**; Belqat and Dakki 2004, **MA**, **HA**; Dakki et al. 2008, **MA**, O. Sebou; Koçak and Kemal 2010; Belqat et al. 2011, **MA**, **HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium* (*Eusimulium*) *mellah* Giudicelli & Bouzidi, 2000 [in Giudicelli, Bouzidi and Abdelaali 2000]

Giudicelli et al. 2000: 63 (original description), **HA**, Oued Mellah (Bassin Draa); Belqat et al. 2001a, **HA**; Belqat 2002, **MA**, **HA**; Belqat and Dakki 2004, **MA**, **HA**; Dakki et al. 2008, **MA**, Oued Sebou; Koçak and Kemal 2010; Belqat et al. 2011, **MA**, **HA**; Adler et al. 2015, **HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium* (*Eusimulium*) *petricolum* (Rivosecchi, 1963)

= *Simulium latizonum* Bailly-Choumara and Beaucournu-Saguez, in Bailly-Choumara and Beaucournu-Saguez 1978: 143–144 (misidentified); Bailly-Choumara and Beaucournu-Saguez 1981: 53–54

Bailly-Choumara and Beaucournu-Saguez 1978, **Rif**, **HA**; Bailly-Choumara and Beaucournu-Saguez 1981, **HA**; Clergue-Gazeau et al. 1991, **HA**; Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisseau émissaire de source débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau

<sup>6</sup> *Metacnephia nuragica* was listed with faunistic and bibliographical details in Belqat et al. (2011: 48) but its identity is uncertain.

affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'goun (1530 m), Oued M'goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **Rif, HA**; Belqat 2002, **Rif, HA**; Belqat and Dakki 2004, **Rif, HA**; Belqat et al. 2005, **Rif**; Dakki et al. 2008, **Rif, MA**, Oued Sebou; Koçak and Kemal 2010; Belqat et al. 2011, **HA**; Adler et al. 2015, **Rif, HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Eusimulium) rubzovianum* (Sherban, 1961)

Adler et al. 2015, **Rif, HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Eusimulium) velutinum sensu stricto* (Santos Abreu, 1922)

= *Eusimulium latinum* Rubzov, in El Mezdi and Giudicelli 1985: 292–295; Benhoussa et al. 1988: 160–164

Bailly-Choumara and Beaucournu-Saguez 1978, **Rif**; Bailly-Choumara and Beaucournu-Saguez 1981, **HA**; El Mezdi and Giudicelli 1985, **HA**, Khettaras of Marrakech; Benhoussa et al. 1988, **AP**, Oued Bou-Regreg; Clergue-Gazeau et al. 1991, **AA**; Benhoussa et al. 1993, **AP**, Oued Bou-Regreg; Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisselet émissaire de source débouchant dans Oued

Réghaya en amont d'Imlil (1750 m), ruisseau émissaire de source débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'goun (1530 m), Oued M'goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **Rif**, **MA**, **HA**, **AA**; Belqat 2002, **Rif**, **MA**, **HA**, **AA**; Belqat and Dakki 2004, **Rif**, **MA**, **HA**, **AA**; Belqat et al. 2005, **Rif**; Dakki et al. 2008, **MA**, Oued Sebou; Koçak and Kemal 2010; Belqat et al. 2011, **Rif**, **AP**, **MA**, **HA**, **AA**; Adler et al. 2015, **Rif**, **HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Eusimulium) velutinum* cytospecies '5'

Adler et al. 2015, **Rif**, Tanger-Anjra, **HA**, Marrakech; Belqat et al. 2018

*Simulium (Nevermannia) ruficorne* species group

*Simulium (Nevermannia) angustitarse* (Lundström, 1911)

Belqat et al. 2001a, **Rif**; Belqat et al. 2001b, **Rif**; Belqat 2002, **Rif**; Belqat and Dakki 2004, **Rif**; Belqat et al. 2005, **Rif**; Belqat et al. 2011, **Rif**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Nevermannia) ibleum* (Rivosecchi, 1966)

Clergue-Gazeau et al. 1991, **HA**; Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual,



1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisseau émissaire de source débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'goun (1530 m), Oued M'goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **Rif**, **HA**; Belqat 2002, **Rif**, **HA**; Belqat and Dakki 2004, **Rif**, **HA**; Belqat et al. 2005, **Rif**; Belqat et al. 2011, **Rif**, **HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium* (*Nevermannia*) *lundstromi* (Enderlein, 1921)

Clergue-Gazeau et al. 1991, **HA**; Dakki 1997; Giudicelli et al. 2000, **HA**; Belqat et al. 2001a, **HA**; Belqat 2002, **HA**; Belqat and Dakki 2004, **HA**; Belqat et al. 2011, **Rif**, Kanar (280 m), Majjo (905 m), 10 km before the Issaguen source (1200 m), **HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium* (*Nevermannia*) *ruficorne* Macquart, 1838

= *Eusimulium ruficorne* Macquart, in El Mezdi and Giudicelli 1985: 292, 294–295 Grenier et al. 1957, **AA**; Bailly-Choumara and Beaucournu-Saguez 1978, **Rif**; Bailly-Choumara and Beaucournu-Saguez 1981, **HA**; El Mezdi and Giudicelli 1985, **HA**, Khettaras of Marrakech; Clergue-Gazeau et al. 1991, **HA**;



Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d’Imlil (1750 m), ruisseau émissaire de source débouchant dans l’assif M’zik (1850 m), ruisseau émissaire de source débouchant dans l’assif N’Ouarzane (3000 m), ruisseau émissaire de source (assif N’Ouarzane, 3000 m), assif N’Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l’assif N’Ouarzane (2400 m), Oued N’fis (amont Ijoukak, 1600 m), Oued N’fis (amont Wirgan, 1200 m), Oued N’fis (980 m), Oued N’fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d’Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l’assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l’assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l’assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l’assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l’assif Oukaïmeden (1260 m), affluent en rive droite de l’assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l’oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d’Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l’assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l’oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M’goun (1530 m), Oued M’goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l’Oued Souss (2350 m); Belqat et al. 2001a, **Rif, HA, AA**; Belqat 2002, **Rif, HA, AA**; Crosskey et al. 2002; Belqat and Dakki 2004, **Rif, HA, AA**; Belqat et al. 2005, **Rif**; Belqat et al. 2011, **Rif, AP, HA, AA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium* (*Nevermannia*) *vernum* species group

*Simulium* (*Nevermannia*) *brevicens* (Rubtsov, 1956)

Clergue-Gazeau et al. 1991, **HA**; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émis-

saire de source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisseau émissaire de source débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'goun (1530 m), Oued M'goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **HA**; Belqat 2002, **HA**; Belqat and Dakki 2004, **HA**; Belqat et al. 2011, **HA**; Belqat et al. 2018; Adler 2019

*Simulium (Nevermannia) carthusiense* (Grenier & Dorier, 1959)

Giudicelli and Dakki 1984, **Rif**; Dakki 1997; Belqat et al. 2001a, **Rif**; Belqat 2002, **Rif**; Belqat and Dakki 2004, **Rif**; Belqat et al. 2005, **Rif**; Belqat et al. 2008, **Rif**; Belqat et al. 2011, **Rif**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Nevermannia) costatum* Friederichs, 1920

Grenier et al. 1957, **Rif**, Pré-Rif, **MA**; Bailly-Choumara and Beaucournu-Saguez 1981, **HA**; Giudicelli and Bouzidi 1989, **HA**; Clergue-Gazeau et al. 1991, **HA**; Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de

source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisseau émissaire de source débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source héliocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'goun (1530 m), Oued M'goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **Rif, MA, HA**; Belqat 2002, **Rif, MA, HA**; Belqat and Dakki 2004, **Rif, MA, HA**; Belqat et al. 2005, **Rif**; Belqat et al. 2008, **Rif**; Belqat et al. 2011, **Rif, MA, HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium* (*Nevermannia*) *cryophilum* (Rubtsov, 1959) (complex)

= *Simulium pusillum* Fries, in Séguy 1930a: 52 (misidentification); Grenier 1953: 159 (after Séguy)

Séguy 1930a, **HA**; Grenier 1953, **Rif, HA**, Lac Ifni; Bouzidi and Giudicelli 1986, **HA**; Bouzidi and Giudicelli 1989, **HA**; Clergue-Gazeau et al. 1991, **HA**; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisseau émissaire de source

débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'goun (1530 m), Oued M'goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Giudicelli Belqat et al. 2001a, **Rif, HA**; Belqat 2002, **Rif, HA**; Belqat and Dakki 2004, **Rif, HA**; Belqat et al. 2005, **Rif**; Belqat et al. 2008, **Rif**; Belqat et al. 2011; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Nevermannia) toubkal* (Bouzidi & Giudicelli, 1986)

Bouzidi and Giudicelli 1986: 41–52 (original description), **HA**, assif n'Ouarzane (Oued Nfis); Giudicelli and Bouzidi 1989, **HA**; Clergue-Gazeau et al. 1991, **HA**; Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (lmlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d'lmlil (1750 m), ruisseau émissaire de source débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis

(amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'goun (1530 m), Oued M'goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **HA**; Belqat 2002, **HA**; Belqat and Dakki 2004, **HA**; Belqat et al. 2011, **HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Nevermannia) vernum* Macquart, 1826 (complex) [*latipes* authors pre-1972, not Meigen]

Clergue-Gazeau et al. 1991, **HA**; Dakki 1997; Belqat et al. 2001a, **Rif**, **HA**; Belqat 2002, **Rif**; Belqat and Dakki 2004, **Rif**, **HA**; Belqat et al. 2005, **Rif**; Belqat et al. 2011, **Rif**, **HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Rubzovia) knidirii* (Giudicelli & Thiery, 1985)

Giudicelli and Thiery 1985: 109–123 (original description in new subgenus *Simulium (Crenosimulium)*, **HA**; Clergue-Gazeau et al. 1991, **HA**; Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisselet émissaire de source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisselet émissaire de source débouchant dans l'assif M'zik (1850 m), ruisselet émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif

N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'goun (1530 m), Oued M'goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **HA**; Belqat 2002, **HA**; Belqat and Dakki 2004, **HA**; Belqat et al. 2011, **HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Rubzovia) lamachi* (Doby & David, 1960)

Giudicelli and Dakki 1984, **Rif**; Giudicelli and Thiery 1985, **Rif**; Clergue-Gazeau et al. 1991, **HA**; Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (lmlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d'lmlil (1750 m), ruisseau émissaire de source débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane: 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source:



2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaimeden (2600 m), source hélocrène au niveau du cirque d'Oukaimeden (2660 m), assif Tiferguine (2500 m), assif Oukaimeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaimeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaimeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaimeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaimeden (1360 m), affluent temporaire en rive droite de l'assif Oukaimeden (1260 m), affluent en rive droite de l'assif Oukaimeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'goun (1530 m), Oued M'Goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **Rif**, **HA**; Belqat 2002, **Rif**, **HA**; Belqat and Dakki 2004, **Rif**; Belqat et al. 2005, **Rif**; Belqat et al. 2011, **Rif**, **HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Simulium) bezzii* species group

*Simulium (Simulium) bezzii* (Corti, 1914) (complex)

= *Simulium atlas* Séguy, 1930, in Séguy 1930a: 50 (original description); Grenier 1953: 158 (synonymy of *atlas* Séguy with *bezzii* suggested)

Séguy 1930a, **MA**; Grenier 1953; Grenier 1953, **MA**, **HA**; Grenier and Théodoridès 1953; Grenier et al. 1957, **AA**; Bailly-Choumara and Beaucournu-Saguez 1978, **Rif**; Bailly-Choumara and Beaucournu-Saguez 1981, **HA**; Bouzidi and Giudicelli 1986, **HA**; Clergue-Gazeau et al. 1991, **HA**; Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisselet émissaire de source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisselet émissaire de source débouchant dans l'assif M'zik (1850 m), ruisselet émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m),



ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source héliocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'Goun (1530 m), Oued M'Goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **Rif, MA, HA, AA**; Belqat 2002, **Rif, MA, HA, AA**; Belqat and Dakki 2004, **Rif, MA, HA, AA**; Belqat et al. 2005, **Rif**; Dakki et al. 2008, **MA**, Oued Sebou; Belqat et al. 2011, **Rif, MA, HA, AA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Simulium) ornatum* species group

*Simulium (Simulium) egregium* Séguy, 1930

Grenier 1930, **HA**; Séguy 1930a: 51 (original description), **HA**; Belqat et al. 2001a, **HA**; Belqat 2002, **HA**; Belqat and Dakki 2004, **HA**; Belqat et al. 2011, **HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Simulium) intermedium* Roubaud, 1906

= *Simulium reptans* var. *fasciatum* Séguy, in Séguy 1930a: 52 (misidentification)

= *Simulium ornatum* var. *nitidifrons* Edwards, in Grenier 1953: 159, Grenier and Théodoridès 1953: 441, Grenier and Faure 1957 [1956]: 840, Grenier and Bailly-Choumara 1970: 102, Bailly-Choumara and Beaucournu-Saguez 1978: 143–144

= *Odagmia nitidifrons* Edwards, in Giudicelli and Dakki 1984: 95, Benhoussa et al. 1988: 160–164

= *Simulium nitidifrons* Edwards, in El Mezdi and Giudicelli 1985: 292, 294–295 Séguy 1930a, **HA**; Grenier 1953, **MA, HA**; Grenier and Théodoridès 1953, **MA**; Grenier and Faure 1957 [1956], **Rif, Pré-Rif, AP**, S Rabat; **MA**, Plain of Meknès; Grenier et al. 1957, **Rif, Pré-Rif, HA**; Grenier and Bailly-Choumara 1970, **MA**; Bernard et al. 1972, **MA**; Bailly-Choumara and Beaucournu-Sa-

guez 1978, **Rif**; Giudicelli and Dakki 1984, **Rif**, **MA**; El Mezdi and Giudicelli 1985, **HA**, Khettaras de Marrakech; Benhoussa et al. 1988, **AP**, Oued Bou-Regreg; Giudicelli and Bouzidi 1989, **HA**; Clergue-Gazeau et al. 1991, **MA**, **HA**; Benhoussa et al. 1993, **AP**, Oued Bou-Regreg; Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisseau émissaire de source débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'Goun (1530 m), Oued M'oun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **Rif**, **MA**, **HA**; Belqat 2002, **Rif**, **MA**, **HA**; Belqat and Dakki 2004, **Rif**, **MA**, **HA**; Belqat et al. 2005, **Rif**; Belqat et al. 2008, **Rif**; Belqat et al. 2011, **Rif**, **AP**, **MA**, **HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium* (*Simulium*) *ornatum* Meigen, 1818 (complex)

= *reptans* var *fasciatum*, in Séguy 1930: 52

[*subornatum*: Séguy 1925/1930, not Edwards]

Séguy 1930a: 52 (*ornatum* and *subornatum* records), **HA**; Grenier 1953, **HA**; Bailly-Choumara and Beaucournu-Saguez 1978, **Rif**; Clergue-Gazeau et al. 1991, **MA**, **HA**; Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisseau émissaire de source débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'Goun (1530 m), Oued M'Goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **Rif**, **MA**, **HA**, **AA**; Belqat 2002, **Rif**, **MA**, **HA**, **AA**; Belqat and Dakki 2004, **Rif**, **MA**, **HA**, **AA**; Belqat et al. 2005, **Rif**; Belqat et al. 2008, **Rif**; Dakki et al. 2008, **MA**, Oued Sebou; Belqat et al. 2011, **Rif**, **MA**, **HA**, **AA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Simulium) trifasciatum* Curtis, 1839

Belqat et al. 2001a, **Rif**; 2001b, **Rif**; Belqat 2002, **Rif**; Belqat and Dakki 2004, **Rif**; Belqat et al. 2005, **Rif**; Belqat et al. 2008, **Rif**; Dakki et al. 2008, **MA**,

Oued Sebou; Belqat et al. 2011, **Rif**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Simulium) variegatum* species group

Bailly-Choumara and Beaucournu-Saguez (1981: 52–54): groupe *monticola* (“sp. nova A” and “sp. nova B”)

*Simulium (Simulium) atlasicum* Giudicelli & Bouzidi, 1989

Giudicelli and Bouzid 1989: 146–151 (original description), **HA**, near village Aguelmous; Clergue-Gazeau et al. 1991, **HA**; Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (lmlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d’lmlil (1750 m), ruisseau émissaire de source débouchant dans l’assif M’zik (1850 m), ruisseau émissaire de source débouchant dans l’assif N’Ouarzane (3000 m), ruisseau émissaire de source (assif N’Ouarzane, 3000 m), assif N’Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l’assif N’Ouarzane (2400 m), Oued N’fis (amont Ijoukak, 1600 m), Oued N’fis (amont Wirgan, 1200 m), Oued N’fis (980 m), Oued N’fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source héliocrène au niveau du cirque d’Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l’assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l’assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l’assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l’assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l’assif Oukaïmeden (1260 m), affluent en rive droite de l’assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l’oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d’Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l’assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l’oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M’Goun (1530 m), Oued M’Goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l’Oued Souss (2350 m); Belqat et al. 2001a, **HA**; Belqat 2002, **HA**; Belqat and Dakki 2004, **HA**; Belqat et al. 2011, **HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Simulium) berberum* Giudicelli & Bouzidi, 1989

Giudicelli and Bouzidi 1989: 151–156 (original description), **HA**, assif n'Ouarzane; Clergue-Gazeau et al. 1991, **HA**; Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisseau émissaire de source débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'Goun (1530 m), Oued M'Goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **HA**; Belqat 2002, **HA**; Belqat and Dakki 2004, **HA**; Belqat et al. 2011, **HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Simulium) variegatum* Meigen, 1818

Bailly-Choumara and Beaucournu-Saguez 1978, **Rif**, **HA**; Bailly-Choumara and Beaucournu-Saguez 1981, **HA**; Giudicelli and Bouzidi 1989; Clergue-Gazeau et al. 1991; Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Ré-

ghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisseau émissaire de source débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'Goun (1530 m), Oued M'Goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **Rif, HA**; Belqat 2002, **Rif, HA**; Belqat and Dakki 2004, **Rif, HA**; Belqat et al. 2005, **Rif, HA**; Belqat et al. 2011, **Rif, HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Simulium) xanthinum* Edwards, 1933

= *Simulium gaudi* Grenier and Faure, in Grenier and Faure 1957 [1956]: 838–840 Grenier and Faure 1957 [1956], **Rif, Pré-Rif, HA**; Grenier et al. 1957; Bailly-Choumara and Beaucournu-Saguez 1978, **Rif**; Clergue-Gazeau et al. 1991, **MA**; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisseau émissaire de source



débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'Goun (1530 m), Oued M'Goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **Rif, MA, HA**; Belqat 2002, **Rif, MA, HA**; Carles-Tolrà 2002; Belqat and Dakki 2004, **Rif, MA, HA**; Belqat et al. 2005, **Rif**; Belqat et al. 2008, **Rif**; Belqat et al. 2011, **Rif, MA, HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium* (*Trichodagmia*) *albellum* species group

*Simulium* (*Trichodagmia*) *auricoma* Meigen, 1818

= *Simulium* (*Obuchovia*) *auricoma* Meigen, 1818, in Belqat et al. 2011: 52

Belqat 2000, **Rif**; Belqat et al. 2001a, **Rif**; Belqat 2002, **Rif**; Belqat and Dakki 2004, **Rif**; Belqat et al. 2005, **Rif**; Belqat et al. 2011, **Rif**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium* (*Trichodagmia*) *galloprovinciale* Giudicelli, 1963 [1962]

= *Simulium* (*Obuchovia*) *galloprovinciale* Giudicelli, 1963, in Belqat et al. 2011: 52

Belqat 2000, **Rif**; Belqat et al. 2001a, **Rif**; Belqat 2002, **Rif**; Belqat and Dakki 2004, **Rif**; Belqat et al. 2005, **Rif**; Belqat et al. 2011, **Rif**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019



*Simulium (Trichodagmia) marocanum* Bouzidi & Giudicelli, 1988 [1987]

= *Simulium (Obuchovia) marocanum* Bouzidi & Giudicelli, 1987, in Belqat et al. 2011: 52

Bouzidi and Giudicelli 1987: 185–195 (original description), **Rif**, near village Bou Adel, **HA**, Oued Rdat (affluent de l'Oued Tensift); Clergue-Gazeau et al. 1991, **HA**; Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisseau émissaire de source débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'Goun (1530 m), Oued M'Goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **HA**; Belqat 2002, **HA**; Belqat and Dakki 2004, **HA**; Belqat et al. 2011, **Rif**, **HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium* (*Wilhelmia*) *equinum* species group*Simulium* (*Wilhelmia*) *equinum* (Linnaeus, 1758)

= *Simulium equinum* Linnaeus, in Grenier et al. 1957: 231–232

Grenier et al. 1957, **MA**; Bailly-Choumara and Beaucournu-Saguez 1981, **HA**; Dakki 1997; Belqat et al. 2001a, **HA**; Belqat 2002, **HA**; Belqat and Dakki 2004, **HA**; Dakki et al. 2008, **MA**, Oued Sebou; Belqat et al. 2011, **MA**, **HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium* (*Wilhelmia*) *pseudequinum* Séguy, 1921

= *Simulium barbaricum* Séguy, in Séguy 1930a: 51

= *Simulium equinum* var. *mediterraneum* Puri, in Grenier 1953: 145–148; Grenier and Théodoridès 1953: 436

= *Simulium equinum mediterraneum* Puri, in Grenier and Faure 1957 [1956]: 840; Grenier et al. 1957: 232–234

= *Wilhelmia pseudequinum* Séguy, in Benhoussa et al. 1988: 160–164

Séguy 1930a, **HA**; Grenier 1953, **HA**; Grenier and Théodoridès 1953, **HA**; Grenier and Faure 1957 [1956], **Rif**, Pré-Rif, **AP**, **HA**, **AA**; Meknès; Grenier et al. 1957, **HA**; Bailly-Choumara and Beaucournu-Saguez 1978, **Rif**; Bailly-Choumara and Beaucournu-Saguez 1981, **HA**; Benhoussa et al. 1988, **AP**, Oued Bou-Regreg; Benhoussa et al. 1993, **AP**, Oued Bou-Regreg; Dakki 1997; Clergue-Gazeau et al. 1991, **HA**; Benhoussa et al. 1993, **AP**, Oued Bou-Regreg; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisseau émissaire de source débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m),

affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'Goun (1530 m), Oued M'Goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **Rif, MA, HA, AA**; Belqat 2002, **Rif, MA, HA, AA**; Belqat and Dakki 2004, **Rif, MA, HA, AA**; Belqat et al. 2005, **Rif**; Belqat et al. 2008, **Rif**; Dakki et al. 2008, **MA**, Oued Sebou; Belqat et al. 2011, **Rif, AP, MA, HA, AA**; Adler and Crosskey 2017; Belqat et al. 2018

*Simulium (Wilhelmia) quadrifila* Grenier, Faure & Laurent, 1957 [1956]

Grenier et al. 1957: 238–239 (original description as form of *sergenti*), **Rif**, Pré-Rif, **AP**, S Casablanca, **MA**, Meknès, **HA**; Bailly-Choumara and Beaucournu-Saguez 1978, **Rif, MA, HA**; Clergue-Gazeau et al. 1991, **Rif**, Pré-Rif; Dakki 1997; Belqat et al. 2001a, **Rif**; Belqat 2002, **Rif, AP**, S Casablanca, **MA, HA**; Belqat and Dakki 2004, **Rif**; Belqat et al. 2005, **Rif**; Dakki et al. 2008, **MA**, Oued Sebou; Belqat et al. 2011, **Rif, AP, MA, HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

*Simulium (Wilhelmia) sergenti* (Edwards, 1923)

= *Simulium ariasi* Séguy, in Séguy 1925: 231–238; Séguy 1930a: 50; Grenier 1953: 144

= *Simulium equinum mediterraneum* Puri, in Grenier and Faure 1957 [1956]: 840; Grenier et al. 1957: 238–240

= *Wilhelmia sergenti* Edwards, in Benhoussa et al. 1993: 249

Séguy 1930a, **MA**; Grenier 1953, **MA**; Grenier and Théodoridès 1953, **HA**; Grenier and Faure 1957 [1956], **Rif**, Pré-Rif; Grenier et al. 1957, **Rif**, Pré-Rif, **AP**, S Casablanca, **MA, HA**; Bailly-Choumara and Beaucournu-Saguez 1978, **Rif, AP, MA, HA**; Bailly-Choumara and Beaucournu-Saguez 1981, **HA**; Clergue-Gazeau et al. 1991, **Rif**, Pré-Rif, **HA**; Benhoussa et al. 1993, **AP**, Oued Bou-Regreg; Dakki 1997; Giudicelli et al. 2000, **HA**, Oued Réghaya (Neltner, 3800 m), Oued Réghaya (Sidi Chamharouch, 2300 m), Oued Réghaya (Imlil, 1740 m), Oued Réghaya (Aguersioual, 1550 m), Oued Réghaya (Moulay Brahim, 1200 m), Oued Réghaya (Tahanaout, 890 m), ruisseau émissaire de source débouchant dans Oued Réghaya en amont d'Imlil (1750 m), ruisseau émissaire de source débouchant dans l'assif M'zik (1850 m), ruisseau émissaire de source débouchant dans l'assif N'Ouarzane (3000 m), ruisseau émissaire de source (assif N'Ouarzane, 3000 m), assif N'Ouarzane (Irhoulidene, 2800 m), ruisseau affluent en rive droite de l'assif N'Ouarzane (2400 m), Oued N'fis (amont Ijoukak, 1600 m), Oued N'fis (amont Wirgan, 1200 m), Oued N'fis (980 m), Oued N'fis (amont retenue Lalla Takerkoust, 660 m), ruisseau de Tinzart (émissaire

de source: 2850 m), ruisseau de Tifni (émissaire de source: 2780 m), ruisseau de Likemt (émissaire de source: 2670 m), ruisseau de Tougroudadene (émissaire de source: 2660 m), assif Oukaïmeden (2600 m), source hélocrène au niveau du cirque d'Oukaïmeden (2660 m), assif Tiferguine (2500 m), assif Oukaïmeden (2450 m), ruisseau émissaire de source débouchant dans l'assif Oukaïmeden (1740 m), complexe rhéocrène formé par des émissaires de source débouchant dans l'assif Oukaïmeden (1730 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1630 m), affluent temporaire en rive gauche de l'assif Oukaïmeden (1360 m), affluent temporaire en rive droite de l'assif Oukaïmeden (1260 m), affluent en rive droite de l'assif Oukaïmeden (1300 m), assif Tarzaza (1200 m), assif Tarzaza (1000 m), cours inférieur de l'oued Ourika (850 m), Oued Rdat en amont de Taddert (1850 m), affluent temporaire en rive gauche de Oued Rdat (1400 m), Oued Rdat (1600 m), Oued Rdat (1230 m), Oued Tensift (600–700 m), khetarras (450–600 m), Oued Tessaout au niveau d'Aït Tamli (1620 m), Oued Lakdar en aval de la retenue de Sidi Driss (1030 m), ruisseau émissaire de source formant le début de l'assif Imini (2090 m), assif Imini (1560 m), Oued Ounila (1820 m), ruisseau affluent en rive gauche de l'oued Ounila (1820 m), Oued Ounila (Timhlt, 1600 m), Oued Mellah (Anghessa, 1400 m), Oued Dadès en amont des gorges (1630 m), Oued Dadès (Boumalne, 1530 m), Oued Dadès (Sidi Flah, 1100 m), Oued M'Goun (1530 m), Oued M'Goun en aval de Kelaâ (1370 m), ruisseau émissaire de source débouchant dans un affluent de l'Oued Souss (2350 m); Belqat et al. 2001a, **Rif, MA, HA**; Belqat 2002, **Rif, MA, HA**; Belqat and Dakki 2004, **Rif, MA, HA**; Belqat et al. 2005, **Rif**; Belqat et al. 2008, **Rif**; Dakki et al. 2008, **MA**, Oued Sebou; Belqat et al. 2011, **Rif, AP, MA, HA**; Adler and Crosskey 2017; Belqat et al. 2018; Adler 2019

## THAUMALEIDAE

K. Kettani, R. Wagner

Number of species: **2**. Expected: 10

Faunistic knowledge of the family in Morocco: poor

### *Thaumalea* Ruthe, 1831

*Thaumalea bernardi* Vaillant, 1956

Vaillant 1956b, **HA**, Toubkal, Siroua, Lac Tamhda (Anremmer), Sidi Chamarouch, Izourar, M'Goum, Oukaïmeden; Dakki 1997

*Thaumalea spinata* Vaillant, 1954<sup>7</sup>

Vaillant 1954a, **HA**, M'Goum, springs powering d'Ameskeur el Fougani, springs powering Izourar lagoon (Azourki), springs powering the lake Tamhda (Anremmer), torrent at the bottom of Jebel Siroua, Oukaïmeden (Toubkal), Jebel Toubkal, Atend (Sidi Chamarouch)

<sup>7</sup> The identity of *Thaumalea spinata* is not finally clarified. No specimen outside the French Alps was found in Vaillant's collection.

**BLEPHARICERIDAE**

K. Kettani, P. Zwick  
 Number of species: 4  
 Blepharicerinae

***Liponeura* Loew, 1844**

*Liponeura alticola* Giudicelli & Bouzidi, 1987

Giudicelli and Bouzidi 1987, **HA**, Oued Réghaya; Dakki 1997

*Liponeura megalatlantica* (Vaillant, 1956)

Vaillant 1956c, **HA**, Izourar, Imi-N'Ifri; Giudicelli and Lavandier 1974; Dakki 1997

*Liponeura rifincola* Zwick, 2013

Zwick 2013, **Rif**, Issaguen (Ketama, 1800 m)

*Liponeura sirouana* (Vaillant, 1956)

= *Cardiocrepsis sirouana* Vaillant, in Vaillant 1956b: 234

Vaillant 1956b, **HA**, Siroua (3000 m); Giudicelli and Lavandier 1974; Dakki 1997

**Bibionoidea****ANISOPODIDAE<sup>8</sup>**

K. Kettani, J.-P. Haenni  
 Number of species: 3. Expected: 7–8  
 Faunistic knowledge of the family in Morocco: poor

**Anisopodinae*****Sylvicola* Harris, 1780**

*Sylvicola fenestralis* (Scopoli, 1763)<sup>9</sup>

= *Rhyphus fenestralis* (Scopoli, 1763), in Mouna 1998: 86

Mouna 1998 (no locality given) – MISR

*Sylvicola fuscatus* (Fabricius, 1775)<sup>1</sup>

= *Rhyphus fuscatus* (Fabricius, 1775), in Mouna 1998: 86

Mouna 1998 (no locality given) – MISR

*Sylvicola punctatus* (Fabricius, 1787)<sup>1</sup>

<sup>8</sup> The species of this family are considered as Moroccan on the basis that they are represented by specimens in the collections of the MISR (Mouna 1998). However, it has not been possible to confirm if the specimens present in this collection actually originated from Morocco.

<sup>9</sup> Three specimens identified as *Rhyphus fenestralis* are present in the collection of MISR (Rabat, Morocco). However, genital examination is required for identification of *S. fenestralis* and the closely related widespread *S. cinctus* (Fabricius, 1787). Both species could probably occur in Morocco.

= *Rhyphus punctatus* (Fabricius, 1787), in Mouna 1998: 86  
Mouna 1998 (no locality given) – MISR

## BIBIONIDAE<sup>10</sup>

K. Kettani, J.-P. Haenni

Number of species: **10**. Expected: 20

Faunistic knowledge of the family in Morocco: poor

### Bibioninae

#### ***Bibio* Geoffroy, 1762**

*Bibio hortulanus* (Linnaeus, 1758)

= *Bibio hortularum* Linnaeus, 1758, in Becker and Stein 1913: 85

Becker and Stein 1913, **Rif**, Tanger; Séguy 1949a, **SA**, Foum Zguid

*Bibio lanigerus* Meigen, 1818

Ebejer et al. 2019, **Rif**, Amsemlil (PNPB, 1067 m)

*Bibio laufferi* Strobl, 1906

Ebejer et al. 2019, **MA**, 3.5 km S of Azrou (Ifrane, 1450 m), 20 km S of Azrou (Ifrane, 1720 m)

*Bibio leucopterus* (Meigen, 1804)

Ebejer et al. 2019, **MA**, 6 km S of Azrou (Ifrane, 1610 m)

*Bibio marci* (Linnaeus, 1758)

Becker and Stein 1913, **Rif**, Tanger; Haenni 2009, **Rif**, Tanger, **MA**, Ifrane

#### ***Dilophus* Meigen, 1803**

*Dilophus antipedalis* Wiedemann in Meigen, 1818

Ebejer et al. 2019, **Rif**, Oued Azla (Nwawel, 57 m), Oued Azla (Hallila, 95 m)

*Dilophus* (cf. *bispinosus* Lundström, 1914)<sup>11</sup>

Séguy 1953a, **AA**, Aïn Chaib (Souss)

*Dilophus febrilis* (Linnaeus, 1758)

= *Dilophus vulgaris* Meigen, 1818, in Séguy 1949a: 153

<sup>10</sup> The following species have also been considered as Moroccan on the basis of specimens present in the collections of the MISR: *Bibio clavipes* Meigen, 1818, *B. ferruginatus* Linnaeus, 1767, *B. fulvipes* Zetterstedt, 1838, *B. hybridus* Haliday, 1833, *B. lacteipennis* Zetterstedt, 1850, *B. nigriventris* Haliday, 1833, *B. pomonae* (Fabricius, 1775), *B. reticulatus* Loew, 1846, *B. siculus* Loew, 1846, *B. varipes* Meigen, 1830, *B. villosus* Meigen, 1818, *D. femoratus* Meigen, 1804, *D. humeralis* Zetterstedt, 1850 (Mouna 1998). However, none of these species is represented in this collection by specimens originating from Morocco. Accordingly, they are excluded from the present checklist. An additional, still undescribed, species of *Bibio* has been collected in the Rif Mountains (Ketama) in 2004 and 2012 by K. Kettani and will be described elsewhere.

<sup>11</sup> The identity of the material of *D. bispinosus* mentioned in Séguy (1953a) should be checked, as *D. clavicornus* Skartveit & Kaplan, 1996, a closely related species that may be present in Morocco, has been described from Israel since this publication.

- Séguy 1949a, **AA**, Goulimine, Foum-el-Hassan  
*Dilophus femoratus* Meigen, 1804  
 = *Philia femorata* Meigen, 1804, in Séguy 1941: 2  
 Séguy 1941d, **HA**, Tizi-n'Test (2000 m); Pârvu et al. 2006, **AP**, Merja Zerga  
*Dilophus tridentatus* Walker, 1848  
 Ebejer et al. 2019, **AP**, Sidi Mokhtar (Essaouira) – MHNN (J.-P. Haenni leg.),  
 MNHN (**SA**, Foum-el-Hassan)

## Sciaroidea

### CECIDOMYIIDAE

K. Kettani, M. Skuhrová, V. Skuhrový  
 Number of species: **57**. Expected: 100  
 Faunistic knowledge of the family in Morocco: moderate

#### Lestremiinae

##### *Lestremia* Macquart, 1826

- Lestremia parvostylia* Jaschhof, 1994  
 Jaschhof 1994, **SA**, Abeino, 15 km N Goulimine; Papp 2007; Gagné 2010;  
 Gagné and Jaschhof 2014; Skuhrová et al. 2017

#### Micromyinae

##### *Campylomyza* Meigen, 1818

- Campylomyza flavipes* Meigen, 1818  
 Jaschhof 1998, **HA**, Telouet; Skuhrová et al. 2017  
*Campylomyza fusca* Winnertz, 1853  
 Jaschhof 1998, **HA**, Telouet; Skuhrová et al. 2017  
*Campylomyza mohrigi* Jaschhof, 2009  
 Jaschhof 2009 (south Morocco); Gagné 2010; Skuhrová et al. 2017  
**Monardia** Kieffer, 1895  
*Monardia (Xylopriona) toxicodendri* (Felt, 1907)  
 Jaschhof 1998 (South Morocco); Jaschhof 2009; Gagné 2010; Skuhrová et al.  
 2017

#### Cecidomyiinae

##### *Asphondylia* Loew, 1850

- Asphondylia capparis* Rübsaamen, 1893  
 Houard 1921, **MA**, Fès; Skuhrová et al. 1984; Skuhrová 1986; Skuhrová et al. 2017



*Asphondylia cytisi* Frauenfeld, 1873

Mimeur 1949, **HA**, Tanzat (1800 m), **AA**, Jebel Sargho, Amalou Bou Mansour (2000 m); Skuhrová et al. 2017

*Asphondylia punica* Marchal, 1897

= *Asphondylia conglomerata* De Stefani, 1900

Houard 1922, **EM**, Zousfana (Jebel Tagla); Mimeur 1949, **AA**, Agdz; Mouna 1998; Skuhrová et al. 2017

*Asphondylia scrophulariae* Schiner, 1856

Mimeur 1949, **AP**, Rabat, Arcilla; Skuhrová et al. 2017

*Asphondylia verbasci* (Vallot, 1827)

Mimeur 1949, **AP**, Maâmora, Rabat, Zaërs; Skuhrová et al. 2017

***Baldratia* Kieffer, 1897***Baldratia salicorniae* Kieffer, 1897

Mimeur 1949, **AP**, Rabat, Salé, Bou-Regreg; Möhn 1966, **EM**, Melilla, Bona, **AP**, Rabat; Skuhrová et al. 1984; Skuhrová 1986; Skuhrová et al. 2014a; Skuhrová et al. 2017

***Bayeriola* Gagné, 1991***Bayeriola thymicola* (Kieffer, 1888)

Houard 1923, **HA**, Réghaya; Mimeur 1949, **EM**, Sidi Ali Oujda, Jebel Hamra, Itzer, **MA**, Ifrane, Azrou, Bordj-Doumergue, Timhadite, Aguelmane; Skuhrová et al. 1984; Skuhrová 1986; Skuhrová et al. 1993; Gagné 2010 (south of Morocco); Bruun et al. 2012; Gagné and Jaschhof 2014; Skuhrová et al. 2017

***Blastomyia* Kieffer, 1913***Blastomyia origani* (Tavares, 1901)

Houard 1922, **MA**, Col de Bouchtata, Zalagh (Mouret); Skuhrová et al. 1984; Skuhrová 1986; Gagné 2010 (south of Morocco); Gagné and Jaschhof 2014; Skuhrová et al. 2017

***Braueriella* Kieffer, 1896***Braueriella phillyreae* (Löw, 1877)

Houard 1922, **Rif**, Jebel Kébir; Houard 1923, **AP**, Cap Ghir (south of Morocco); Mimeur 1949, **Rif**, Zoumi, Ouezzane, **EM**, Béni Snassen, **AP**, Larache, Zaërs, Mehdiya, Sehoul, **MA**, Jebel Said, Taza, Tahala, Tadla; Mouna 1998; Skuhrová et al. 2017 – MNHN (**AP**, Mehdiya)

***Contarinia* Rondani, 1860***Contarinia ilicis* Kieffer, 1898

Houard 1919, **MA**, Immouzer; Mimeur 1949, **EM**, Béni Snassen, Ras Foughal, El-Harcha, **MA**, Ifrane, Aït Bou-Mzil, Monts Zaïan, Agoumi-n'Aït Mguild; Skuhrová et al. 2017

*Contarinia luteola* Tavares, 1902

Mimeur 1949, **EM**, El Harcha, **MA**, Ifrane, Djaba, Imouzzet-du-Kandar, Tafchna; Mouna 1998; Skuhrová et al. 2017

*Contarinia nasturtii* (Kieffer, 1888)

Mouna 1998: 85 (no accurate locality); Skuhrová et al. 2017

*Contarinia pyrivora* (Riley, 1886)

= *Diplosis pirivora* Riley, in Mouna 1998: 85

Mouna 1998: 85 (no accurate locality); Skuhrová et al. 2017

### ***Dasineura Rondani, 1840***

*Dasineura affinis* (Kieffer, 1886)

= *Perrisia affinis* (Kieffer), in Mouna 1998: 85

Mimeur 1949, **Rif**, Tanger, **EM**, Oujda, **AP**, Gharb, Port-Lyautey, Rabat, Fedala, Casablanca, Mazagan, Settat, Oued-Zem, Mogador, **MA**, Fès, Tahala, Marchand; Mouna 1998; Skuhrová et al. 2017; **AP** (Rabat) – MISR

*Dasineura asparagi* (Tavares, 1902)

Mimeur 1949, **AP**, Rabat, Zaërs, **HA**, Chaouia; Skuhrová et al. 2017

*Dasineura crataegi* (Winnertz, 1853)

Mimeur 1949, **EM**, Chaouia des Béni Snassen, **AP**, Rabat, Zaërs, **MA**, Ifrane, Tahala Aguelmane de Sidi Ali, Fès, Agoumi-n'Aït Mguild, Tarhzirt, **AA**, Argana, Imi-n-Tanoute; Skuhrová et al. 2017

*Dasineura ericaescopariae* (Dufour, 1837)

Houard 1912, **Rif**, Cap Spartel; Rübsaamen 1899; Skuhrová et al. 2017

*Dasineura helianthemi* (Hardy, 1850)

= *Contarinia helianthemi* (Hardy, 1850)

Mimeur 1949, **AP**, Gharb, Maâmora, Zaërs; Skuhrová et al. 2017

*Dasineura napi* (Loew, 1850)

= *Dasineura brassicae* (Winnertz, 1853) in Mouna 1998: 85

Mouna 1998 (no accurate locality); Skuhrová et al. 2017

*Dasineura perichlymeni* (Rübsaamen, 1889)

Mimeur 1949, **AP**, Rabat, Chellah, Yquem, Grou, Korifla, **EM**, Berkane; Skuhrová et al. 2017

*Dasineura plicatrix* (Loew, 1850)

Mimeur 1949, **EM**, Massif des Béni Snassen, El-Harcha, **AP**, Larache, Korifla, Grou, Yquem, Malah, Rabat, **MA**, Azrou, Ifrane, Monts Zaian, Oulmès, Khénifra, **HA**, Tizi-Machou, **AA**, Bigoudine; Skuhrová et al. 2017

*Dasineura rosae* (Loew, 1850)

= *Wachtliella rosarum* (Hardy, 1850)

Mimeur 1949, **MA**, Ifrane, Aguelmane de Sidi Ali, Aguelmane Azigza, Zaad, Bordj-Doumergue, Bekrite, **HA**, Tizi-Machou; Skuhrová et al. 2017

### ***Dicrodiplosis Kieffer, 1895***

*Dicrodiplosis pseudococci* (Felt, 1914)

Harris 1968, **AP**, Rabat, Salé, **HA**, Asni; Skuhrová et al. 1984; Skuhrová 1986; Skuhrová et al. 2017

### ***Dryomyia Kieffer, 1898***

*Dryomyia lichtensteinii* (Löw, 1878)

Mimeur 1949, **EM**, Debdou, Ras Foughal, El-Harcha, **MA**, Taza, Oulmès, Azrou, Aguelmane Azigza, Ifrane, Imouzzet-du-Kandar, Tizi-n'Tretten, Ida-

ou Tanane, Azilal, **HA**, Ayachi; Skuhrová et al. 1984; Skuhrová 1986; Oosterbroek 2007; Gagné and Jaschhof 2014; Skuhrová et al. 2017; **MA** (Oulmès) – MISR

***Etsuhoa* Inouye, 1959**

*Etsuhoa thuriferae* Skuhrová, 1996

Mimeur 1949, **HA**, Sidi-Chamharouch, Aït Bou-Jafar; Skuhrová 1995; Skuhrová et al. 2017

***Feltiella* Rübsaamen, 1910**

*Feltiella acarisuga* (Vallot, 1827)

Gagné 1995, **AP**, Rabat; Osborne et al. 2002 (productive areas of cereals); Gagné 2004; Gagné and Jaschhof 2014; Skuhrová et al. 2017

***Gephyraulius* Rübsaamen, 1916**

*Gephyraulius diplotaxis* (Solinas, 1982)

Houard 1922, **EM**, Oasis de Figuig, Jebel Ouazzani; Mimeur 1949, **AP**, Vallée de l'Oued Korifla, Sidi Bouknadel; Skuhrová et al. 2017

*Gephyraulius raphanistri* (Kieffer, 1886)

Houard 1923, **AP**, Mogador; Mimeur 1949, **AP**, Gharb, Skhirat, Bouznika; Skuhrová et al. 2017

***Houardiella* Kieffer, 1912**

*Houardiella salicorniae* Kieffer, 1912

Trotter 1904, **Rif**, Tingis; Houard 1912, **Rif**, Tanger; Mimeur 1949, **AP**, Loukous, Larache, Ksob, Ameer, Mogador, Rabat, Salé, Bou-Regreg, **EM**, Moulouya, **AA**, Agadir; Skuhrová et al. 2017

***Iteomyia* Kieffer, 1913**

*Iteomyia major* (Kieffer, 1889)

Mimeur 1949, **AP**, Korifla, Grou, **MA**, Leghzel; Skuhrová et al. 2017

***Jaapiella* Rübsaamen, 1916**

*Jaapiella bryoniae* (Bouché, 1847)

Mimeur 1949, **Rif**, Ouezzane, **AP**, Sidi Bouknadel, Mehdia, Temara, Skhirat, Pont-Blondin, Larache, Monod, Boulhaut, Safi, **MA**, Tahala, Fès, Khemisset, Marchand, **AA**, Agadir; Skuhrová et al. 2017

***Lasioptera* Meigen, 1818**

*Lasioptera berlesiana* Paoli, 1907

Mimeur 1949; Skuhrová et al. 1984; Skuhrová 1986; Skuhrová et al. 2017

*Lasioptera rubi* (Schrank, 1803)

Mimeur 1949, **AP**, Tinkert, **MA**, Ifrane, Taza, Tarhzirt, **HA**, N'Fis, Oumer-Rbia, Jebel Tardema; Skuhrová et al. 2017

*Lasioptera thapsiae* Kieffer, 1898

= *Lasioptera carophila* F. Löw, in Houard 1923: 699

Houard 1921; Houard 1923, **Rif**, Tanger; Mimeur 1949, **EM**, Béni Snassen, Guercif, **AP**, Settati, **MA**, Tiddas; Mouna 1998; Skuhrová et al. 2017

***Lestodiplosis* Kieffer, 1894**

*Lestodiplosis aonidiellae* Harris, 1968

Harris 1968, **EM**, Oujda, **AP**, Rabat, **MA**, Fès; Skuhrová et al. 2017

***Mayetiola* Kieffer, 1896***Mayetiola avenae* (Marchal, 1895)

Mouna 1998; Lahloui et al. 2005, **AP**, Settati, Safi, El Jadida, **MA**, Béni Mellal, Khouribga, **HA**, Marrakech, El Kelaâ; Skuhrová et al. 2017

*Mayetiola destructor* (Say, 1817)

Vayssière 1920, **EM**, Oujda; Jourdan 1937; Hudault and Zelensky 1939; Mimeur 1949; Skuhrová et al. 1984; Skuhrová 1986; Gagné et al. 1991; Amri et al. 1992 (productive areas of cereals); El Bouhssini et al. 1992a, 1992b; Lhaloui et al. 1992; El Bouhssini et al. 1996a, 1996b; Khalifi et al. 1996; Azzam et al. 1997; El Bouhssini et al. 1997, 1999; El Bouhssini et al. 1998; Mouna 1998; Naber et al. 2000, 2003; Lhaloui et al. 2001; Lhaloui et al. 2005; Gagné 2010; Gagné and Jaschhof 2014; Skuhrová et al. 2017; **AP** (Rabat), **MA** – MISR

*Mayetiola hordei* Kieffer, 1909

Mouna 1998; Gagné et al. 1991; Lhaloui et al. 2005, **AP**, Settati, Safi, El Jadida, **MA**, Béni Mellal, Khouribga, **HA**, Marrakech, El Kelaâ; Skuhrová et al. 2005; Gagné 2010; Gagné and Jaschhof 2014; Skuhrová et al. 2017

***Oligotrophus* Latreille, 1805***Oligotrophus panteli* Kieffer, 1898

Mimeur 1949, **EM**, Béni Snassen, **MA**, Aguelmane Azigza, Azrou, **HA**, Ayachi, Aït Bou-Jafar; Skuhrová et al. 2017

*Oligotrophus valerii* (Tavares, 1904)

= *Arceuthomyia valerii* (Tavares, 1904)

Mimeur 1949, **HA**, Ayachi, Aït Bou-Jafar; Skuhrová et al. 2017

***Orseolia* Kieffer & Massalongo, 1902***Orseolia cynodontis* Kieffer & Massalongo, 1902

Houard 1922, **Rif**, Tanger, Aïn Dalia; Skuhrová et al. 1984; Skuhrová 1986; Gagné 2010; Gagné and Jaschhof 2014; Skuhrová et al. 2017

***Phyllodiplosis* Kieffer, 1912***Phyllodiplosis cocciferae* (Tavares, 1902)

= *Blastodiplosis cocciferae* (Tavares, 1902)

Trotter 1904, **Rif**, Cap Spartel; Houard 1912; Mimeur 1949, **Rif**, Cap Spartel, Ouezzane, **EM**, Béni Snassen, El-Harcha, **AP**, Larache, Maâmora, Boulhaut, Zaërs, **MA**, Taza, Djaba, Ifrane, Imouzzar-du-Kandar, Dayet Achlaf, Dayet Ifrah, Michlifén, Bordj-Doumergue, Zaad, Bekrite, Aguelmane Azigza, Agoumi-n'Aït Mguild, Bou-Mzil, **HA**, Bou-Jafar, Jebel Tardema; Skuhrová et al. 1984; Skuhrová 1986; Gagné 2010; Gagné and Jaschhof 2014

***Psectrosema* Kieffer, 1904***Psectrosema tamaricum* (Kieffer, 1912)

= *Amblardiella tamaricum* Kieffer, in Mouna 1998: 85

Houard 1922, **EM**, Zousfana, near Sidi Youssef; Mimeur 1949, Morocco Mediterranean, continental and sub-saharan, **EM**, Berkane, Moulouya, **AP**, **MA**, Tadla, **HA**, Haouz, **AA**, Tafilalet, **SA**, Agad; Skuhrová et al. 1984; Skuhrová 1986; Mouna 1998; Skuhrová et al. 2014a; Skuhrová et al. 2017

***Resseliella* Seitner, 1906**

*Resseliella oleisuga* (Targioni-Tozzetti, 1887)

= *Clinodiplosis oleisuga* Targioni-Tozzetti, in Mouna 1998: 85

Hafraoui 1966; Skuhrová et al. 1984; Skuhrová 1986; Mouna 1998; Gagné 2010; Gagné and Jaschhof 2014; Skuhrová et al. 2017

***Rhopalomyia* Rübsaamen, 1892**

*Rhopalomyia navasi* Tavares, 1904

Houard 1922, **EM**, Jebel Mais, Djahifa, **HA**, Aït Ameli; Houard 1923; Mimeur 1949, **EM**, Figuig, Jebel Nokra, Ifkern, Haute Moulouya, **MA**, Tadla; Skuhrová et al. 1993; Skuhrová et al. 2014b; Skuhrová et al. 2017

***Schizomyia* Kieffer, 1889**

*Schizomyia buboniae* (Frauenfeld, 1859)

Houard 1917, **EM**, Djorf de Taouriet; Houard 1922, **EM**, Jebel Tagla, Aïn Yalon; Skuhrová et al. 2014a; Skuhrová et al. 2017

***Stefaniella* Kieffer, 1898**

*Stefaniella trinacriae* De Stefani, 1900

Mimeur 1949, **AP**, Oualidia, Zima, Casablanca; Skuhrová et al. 2017

***Stefaniola* Kieffer, 1913**

*Stefaniola africana* Möhn, 1971

Mimeur 1949, **AP**, Rabat, Salé, Bou-Regreg; Skuhrová et al. 2017

*Stefaniola bilobata* (Kieffer, 1913)

Houard 1922–1923; Mimeur 1949, **MA**, Tadla, **HA**, Ksar-es-Souk, **AA**, Haouz; Skuhrová et al. 1984; Skuhrová 1986; Skuhrová et al. 1993; Gagné 2010; Gagné and Jaschhof 2014; Skuhrová et al. 2017

*Stefaniola opulenta* Möhn, 1971

Möhn 1971; Skuhrová et al. 1984; Skuhrová 1986; Gagné 2010; Gagné and Jaschhof 2014; Skuhrová et al. 2017; Pape and Thompson 2019

*Stefaniola ventriosa* Möhn, 1971

Möhn 1971, **MA**, Oued Gheris; Skuhrová et al. 1984; Skuhrová 1986; Gagné 2010; Gagné and Jaschhof 2014; Skuhrová et al. 2014a; Skuhrová et al. 2017

***Thecodiplosis* Kieffer, 1895**

*Thecodiplosis brachyntera* (Schwägrichen, 1835)

Mouna 1998: 85 (no accurate locality); Skuhrová et al. 2017

**KEROPLATIDAE**

K. Kettani, P.J. Chandler

Number of species: **2**. Expected: 50

Faunistic knowledge of the family in Morocco: poor

Keroplatae

***Keroplatus* Bosc, 1792**

*Keroplatus reaumurii* (Dufour, 1839)

Matile 1986; Chandler et al. 2005; Evenhuis 2006

***Macrocera* Meigen, 1803***Macrocera fasciata* Meigen, 1804Becker and Stein 1913, **Rif**, Tanger; Chandler and Ribeiro 1995; Evenhuis 2006**MYCETOPHILIDAE**

K. Kettani, P.J. Chandler

Number of species: **64**. Expected: 250

Faunistic knowledge of the family in Morocco: poor

Mycetophilinae

Exechiini

***Allodiopsis* Tuomikoski, 1966***Allodiopsis rustica* Edwards, 1941Banamar et al. 2020, **Rif**, Dayat Tazia***Anatella* Winnertz, 1864***Anatella concava* Plassmann, 1990Banamar et al. 2020, **Rif**, Oued Aârate***Brevicornu* Marshall, 1896***Brevicornu intermedium* (Santos Abréu, 1920)Banamar et al. 2020, **Rif**, Forêt Jebel Lakraâ, Oued Tisgris, Oued Aârate, Dayat Tazia, Oued Maggou (Maggou Village), Douar Tizga, maison forestière de Talassemthane, Dayat Jebel Zemzem, Aïn Takhninjoute, Forêt Adrou, Dayat Amsemlil*Brevicornu griseicollae* Staeger, 1840Banamar et al. 2020, **Rif**, Dayat Fifi, Oued Aârate, Dayat Tazia, Oued Maggou (Maggou Village), Aïn El Malaâb, maison forestière de Talassemthane, Douar Tizga, Aïn Takhninjoute, Dayat Amsemlil, Dayat Lemtahane, Dayat avant Taida*Brevicornu sericoma* (Meigen, 1830)Banamar et al. 2020, **Rif**, Chefchaouen, Dayat Fifi, Forêt Jebel Lakraâ, Dayat Fifi, Oued Maggou (Maggou Village), maison forestière de Talassemthane, Douar Tizga, Oued Amsemlil, Grotte d'Hercule, Forêt Adrou, Cascade Chrafate, Oued Aârate, Bab el Karn, Dayat Amsemlil – MNHN (coll. J. Beaucournu)*Brevicornu verralli* (Edwards, 1925)Banamar et al. 2020, **Rif**, Dayat Afersiw, Forêt Jebel Lakraâ***Cordyla* Meigen, 1803***Cordyla crassicornis* Meigen, 1818Chandler and Ribeiro 1995; Banamar et al. 2020, **Rif**, Douar Abou Boubnar, maison forestière de Talassemthane, Forêt Adrou, Oued Sidi Yahia Aârab, **EM**, Oued Tafoughalt; **Rif** (Chefchaouen) – MNHN*Cordyla insons* Laštovka & Matile, 1974Banamar et al. 2020, **Rif**, Oued Maggou

*Cordyla murina* Winnertz, 1864

Banamar et al. 2020, **Rif**, Forêt Aïn Boughaba

*Cordyla styliforceps* (Bukowski, 1934)

Banamar et al. 2020, **Rif**, maison forestière de Talassemrane, Oued Tkaraâ, Oued Sidi Yahia Aârab

***Exechia* Winnertz, 1863***Exechia bicincta* (Staeger, 1840)

Banamar et al. 2020, **Rif**, Oued Kelaâ, Oued Aârate, **EM**, Grotte des Pigeons, Oued Tafoughalt

*Exechia dorsalis* (Staeger, 1840)

Banamar et al. 2020, **Rif**, Bab el Karn

*Exechia fulva* Santos Abreu, 1920

= *Rymosia exornata* Séguy, in Séguy 1941a: 26

Séguy 1941a, **HA**, Toubkal; Chandler and Ribeiro 1995; Banamar et al. 2020, **Rif**, Oued Kelaâ, Forêt Aïn Boughaba, Forêt Jebel Lakraâ, Dayat Fifi, Aïn Sidi Brahim Ben Arrif, Oued Maggou (Maggou Village), Aïn Takhninjoute, maison forestière de Talassemrane, Oued Amsemlil, Dayat Jebel Zemzem, Aïn Takhninjoute, Bab el Karn, Dayat Fifi, Dayat Amsemlil; **Rif** (Chefchaouen, coll. J. Beaucournu) – MNHN; **Rif** (20 km west of Targuist, coll. A.M. Hutson) – NHMUK

*Exechia fusca* (Meigen, 1804)

Banamar et al. 2020, **Rif**, Oued Kelaâ, Forêt Jebel Lakraâ, Douar Kitane, Dayat Amsemlil

***Exechiopsis* Tuomikoski, 1966***Exechiopsis coremura* (Edwards, 1928)

Banamar et al. 2020, **Rif**, Cascade Chrafate

***Pseudexechia* Tuomikoski, 1966***Pseudexechia tuomikoskii* (Kjærandsen, 2009)

Banamar et al. 2020, **Rif**, Source Aheramen

***Rymosia* Winnertz, 1864***Rymosia affinis* Winnertz, 1864

Banamar et al. 2020, **Rif**, maison forestière de Talassemrane, Dayat Amsemlil, Aïn Tiouila, Dayat Fifi

*Rymosia beaucournui* Matile, 1963

Chandler 1994; Chandler and Ribeiro 1995; Chandler et al. 2005; Banamar et al. 2020, **EM**, Grotte des Pigeons; **AP** (Oued y Kern, coll. H. Choumara) – MNHN

*Rymosia pseudocretensis* Burghel-Balacesco, 1966

Chandler 1994; Chandler et al. 2005; Banamar et al. 2020; **AP** (Oued y Kern, coll. H. Choumara) – MNHN

***Stigmatomeria* Tuomikoski, 1966***Stigmatomeria crassicornis* (Stannius, 1831)

Banamar et al. 2020, **Rif**, Forêt Jebel Lakraâ, Dayat Fifi, Aïn Takhninjoute, maison forestière de Talassemrane, Dayat Amsemlil; **Rif** (Chefchaouen, coll. J. Beaucournu) – MNHN



***Tarnania* Tuomikoski, 1966***Tarnania dziedzickii* (Edwards, 1941)

Banamar et al. 2020, **Rif**, maison forestière de Talassemtane, Dayat Amsemlil, Cascade Chrafate, Dayat Amsemlil, Grotte Aïn El-Aouda – MNHN

## Mycetophilini

***Mycetophila* Meigen, 1804***Mycetophila alea* Laffoon, 1965

Banamar et al. 2020, **Rif**, Aïn el Ma Bared, maison forestière de Talassemtane, Oued Aârate, Bab el Karn; **Rif** (Chefchaouen, coll. J. Beaucournu) – MNHN

*Mycetophila britannica* Laštovka & Kidd, 1975

Chandler and Ribeiro 1995; Banamar et al. 2020, **Rif**, Forêt Aïn Boughaba, Forêt Jebel Lakraâ, Douar Kitane, Aïn El Malaâb, oued à 15 km de Fifi, Aïn El Ma Bared, maison forestière de Talassemtane, Oued Maggou (Maggou Village), Aïn Takhninjoute, Grotte d'Hercule, Oued Aârate, Bab el Karn, Dayat Amsemlil, Dayat Lemtahane, Dayat avant Taida, Forêt Taghzout – MNHN

*Mycetophila deflexa* Chandler, 2001

Banamar et al. 2020, **Rif**, Forêt Taghzout, route Ksar el Kebir–Chefchaouen

*Mycetophila edwardsi* Lundström, 1913

Banamar et al. 2020, **Rif**, Dayat Fifi, Dayat Tazia, Oued Tkarae, Forêt Jebel Lakraâ, Forêt Taghzout, Grotte d'Hercule, **EM**, Béni Snassen

*Mycetophila formosa* Lundström, 1911

Banamar et al. 2020, **Rif**, Forêt Jebel Lakraâ, Oued Amsemlil, Dayat Amsemlil, Dayat avant Taida

*Mycetophila marginata* Winnertz, 1864

Banamar et al. 2020, **Rif**, Aïn Ras el Ma, Oued Maggou (Maggou Village), maison forestière de Talassemtane, Dayat Amsemlil; **Rif** (Chefchaouen, coll. J. Beaucournu) – MNHN

*Mycetophila perpallida* Chandler, 1993

Banamar et al. 2020, **Rif**, Forêt Aïn Boughaba, Aïn El Malaâb, maison forestière de Talassemtane, Bab el Karn, Dayat Amsemlil, Douar Kitane

*Mycetophila pictula* Meigen, 1830

Chandler and Ribeiro 1995; Banamar et al. 2020, **Rif**, Forêt Jebel Lakraâ, Oued Maggou (Maggou Village); **Rif** (Chefchaouen, coll. J. Beaucournu) – MNHN

*Mycetophila sordida* van der Wulp, 1874

Chandler 1994; Banamar et al. 2020, **Rif**, Forêt Jebel Lakraâ; Oued Maggou (Maggou Village); **MA** (Khenolap-el-Ouaer, 1580 m, coll. J. Beaucournu) – MNHN

*Mycetophila spectabilis* Winnertz, 1864

Banamar et al. 2020, **Rif**, Forêt Jebel Lakraâ, Forêt Aïn Boughaba, oued à 15 km de Fifi, Aïn El Malaâb

*Mycetophila strigatoides* (Landrock, 1927)

Banamar et al. 2020, **Rif**, Forêt Taghzout, Oued Aârate

*Mycetophila unicolor* Stannius, 1831

Banamar et al. 2020, **Rif**, Oued Kelaâ

*Mycetophila vittipes* Zetterstedt, 1852

Banamar et al. 2020, **Rif**, Forêt Jebel Lakraâ, maison forestière de Talassem-tane, Dayat Amsemlil

***Phronia* Winnertz, 1863**

*Phronia biarcuata* (Becker, 1908)

Chandler 1994; Chandler and Ribeiro 1995; Chandler et al. 2005; Banamar et al. 2020, **Rif**, Dayat Tazia, Aïn el Ma Bared, Aïn El Malaâb, Aïn Takhnin-joute, maison forestière de Talassem-tane, Grotte d'Hercule, Dayat Amsemlil; **Rif** (Chefchaouen, coll. J. Beaucournu) – MNHN

*Phronia cinerascens* Winnertz, 1864

Banamar et al. 2020, **Rif**, Dayat Amsemlil

*Phronia nitidiventris* (van der Wulp, 1858)

Banamar et al. 2020, **Rif**, Dayat Afersiw, Oued Aârate

*Phronia tenuis* Winnertz, 1864

Banamar et al. 2020, **Rif**, Oued Kelaâ, Oued Aârate, Oued Maggou (Maggou Village), Aïn Takhninjoute, Grotte d'Hercule

*Phronia tyrrhenica* Edwards, 1928

Banamar et al. 2020, **Rif**, Forêt Jebel Lakraâ, maison forestière de Talassem-tane, Dayat Amsemlil, Aïn Takhninjoute

*Phronia willistoni* Dziedzicki, 1889

Banamar et al. 2020, **Rif**, Forêt Jebel Lakraâ, Oued Aârate, maison forestière de Talassem-tane, Dayat Amsemlil, Cascade Chrafate, Bab el Karn

***Sceptonia* Winnertz, 1864**

*Sceptonia intestata* Plassmann & Schacht, 1990

Banamar et al. 2020, **Rif**, maison forestière de Talassem-tane, Aïn El Malaâb

*Sceptonia membranacea* Edwards, 1925

Banamar et al. 2020, **Rif**, oued à 15 km de Fifi, Oued Aârate

***Trichonta* Winnertz, 1864**

*Trichonta foeda* Loew, 1869

Banamar et al. 2020, **Rif**, Aïn Takhninjoute, Bab el Karn, Dayat Amsemlil, Oued Tkarae

*Trichonta icenica* Edwards, 1925

Banamar et al. 2020, **EM**, Grotte du Chameau

*Trichonta vitta* (Meigen, 1830)

Banamar et al. 2020, **Rif**, Forêt Jebel Lakraâ, Bab el Karn

*Trichonta vulcani* Dziedzicki, 1889

Banamar et al. 2020, **EM**, Grotte du Chameau

***Zygomyia* Winnertz, 1864**

*Zygomyia humeralis* (Wiedemann, 1817)

Banamar et al. 2020, **Rif**, maison forestière de Talassem-tane

*Zygomyia valida* Winnertz, 1864

Banamar et al. 2020, **Rif**, Aïn Ras el Ma, Oued Aârate

## Leiinae

***Docosia* Winnertz, 1864***Docosia gilvipes* (Walker, 1856)

Banamar et al. 2020, **Rif**, Forêt Jebel Lakraâ, maison forestière de Talassem-tane, Aïn Takhninjoute, Dayat Amsemlil

***Leia* Meigen, 1818***Leia arsona* Hutson, 1978

Banamar et al. 2020, **Rif**, Oued Maggou (Maggou village), Oued Sidi Yahia Aârab, **MA**, Aïn Walili

*Leia beckeri* Landrock, 1940

Banamar et al. 2020, **Rif**, Aïn Ras el Ma

*Leia bimaçulata* (Meigen, 1804)

Chandler 1994; Chandler et al. 2005; Banamar et al. 2020, **Rif**, Dayat Tazia, maison forestière de Talassem-tane, Aïn el Ma Bared, **MA**, Forêt 3.5 km S Azrou; **MA** (Forêt Ifrane, coll. P.N. Lawrence) – NHMUK

***Novakia* Strobl, 1893***Novakia scatopsiformis* Strobl, 1893

Banamar et al. 2020, **Rif**, maison forestière de Talassem-tane

*Novakia simillima* Strobl, 1910

Banamar et al. 2020, **Rif**, Oued Aârate, maison forestière de Talassem-tane

## Gnoristinae

***Boletina* Staeger, 1840***Boletina gripha* Dziedzicki, 1885

Banamar et al. 2020, **Rif**, Dayat Fifi, Oued Aârate, Aïn Sidi Brahim Ben Arrif, Dayat Amsemlil, Grotte d'Hercule, Cascade Chrafate, Oued Sidi Yahia Aârab, Aïn el Ma Bared, Bab el Karn, **MA**, forêt 3.5 km S Azrou

***Coelosia* Winnertz, 1864***Coelosia fusca* Bezzi, 1892

Banamar et al. 2020, **Rif**, Dayat Fifi, Oued Kelaâ, Oued Amsemlil, Dayat Amsemlil, Aïn Takhninjoute, Cascade Chrafate, Bab el Karn, Dayat avant Taida

***Synapha* Meigen, 1818***Synapha fasciata* Meigen, 1818

Banamar et al. 2020, **Rif**, Aïn Sidi Brahim Ben Arrif, Dayat Tazia, Forêt Adrou, Dayat Amsemlil, Dayat avant Taida

*Synapha vitripennis* (Meigen, 1818)

Banamar et al. 2020, **Rif**, Dayat Amsemlil

***Tetragoneura* Winnertz, 1846***Tetragoneura ambigua* Grzegorzek, 1885

Banamar et al. 2020, **Rif**, Forêt Aïn Boughaba, **EM**, Oued Tafoughalt

## Mycomyinae

***Mycomya* Rondani, 1856***Mycomya flavicollis* (Zetterstedt, 1852)Banamar et al. 2020, **Rif**, Aïn El Malaâb, maison forestière de Talassemtane*Mycomya pygmalion* Väisänen, 1984Banamar et al. 2020, **Rif**, Oued Amsemlil, Aïn Sidi Brahim Ben Arrif*Mycomya tumida* (Winnertz, 1864)Banamar et al. 2020, **Rif**, Dayat Fifi

## Sciophilinae

***Azana* Walker, 1856***Azana anomala* Staeger, 1840Banamar et al. 2020, **Rif**, Oued Maggou (Maggou village), maison forestière de Talassemtane***Sciophila* Meigen, 1818***Sciophila iberolutea* Chandler & Blasco-Zumeta, 2001Chandler and Gatt 2000, **AP**, Oued y Kern; Chandler and Blasco-Zumeta 2001, **AP**, Oued y Kern; Bechev and Koç 2006; Banamar et al. 2020, **Rif**, maison forestière de Talassemtane, Dayat Jebel Zemzem, Oued Sidi Yahia Aârab, Bab el Karn, Marabout el Khaloua; **AP** (Oued y Kern, coll. H. Choumara) – MNHN**SCIARIDAE**

K. Kettani, K. Heller

Number of species: **70**. Expected: 200–500

Faunistic knowledge of the family in Morocco: poor

***Austrosciara* Schmitz & Mjöberg, 1924***Austrosciara hyalipennis* (Meigen, 1804)El Ouazzani et al. 2019, **Rif**, Douar El Hamma, **MA**, Lac Ouiouane***Bradysia* Winnertz, 1867***Bradysia alpicola* (Winnertz, 1867)El Ouazzani et al. 2019, **MA**, Lac Ouiouane*Bradysia bulbiger* Mohrig & Kauschke, 1994El Ouazzani et al. 2019, **Rif**, Oued Ouara, Oued Ametrasse, Merzouk Bni Salah, Dayat Bayn widane, **HA**, Ouirgane*Bradysia cavernicola* Mohrig & Eckert, 1999Menzel and Heller 2004, **HA**, Ouirgane*Bradysia cinerascens* (Grzegorzek, 1884)El Ouazzani et al. 2019, **Rif**, Issaguen, Anissar (PNPB)

*Bradysia crinita* Mohrig, 1992

El Ouazzani et al. 2019, **Rif**, Issaguen, Douar El Hamma

*Bradysia fenestralis* (Zetterstedt, 1838)

El Ouazzani et al. 2019, **Rif**, Forêt R'milat

*Bradysia fenestrata* (Meigen, 1818)

El Ouazzani et al. 2019, **Rif**, Jebel Zemzem, Oued Tkarâa, Ben Karrich, Dayat Tazia, Perdicaris Park, Tourbière Amsemlil, Dayat Tazia

*Bradysia flavipila* Tuomikoski, 1960

El Ouazzani et al. 2019, **HA**, Ouirgane

*Bradysia iberiana* Rudzinski & Baumjohann, 2009

El Ouazzani et al. 2019, **HA**, Ouirgane

*Bradysia lembkei* Mohrig & Menzel, 1990

El Ouazzani et al. 2019, **Rif**, Oued Maggou, Dayat Tazia, **AP**, Forêt Maâmora, **HA**, Ouirgane, Gerifodene

*Bradysia lucichaeta* Mohrig & Krivosheina, 1989

Mohrig et al. 1997, **AA**, Sidi Rbat (40 km S Agadir)

*Bradysia mediterranea* Mohrig & Menzel, 1992

Mohrig and Menzel 1992, **HA**

*Bradysia nigrispina* Menzel, 2006

El Ouazzani et al. 2019, **HA**, Gerifodene

*Bradysia pectoralis* (Staeger, 1840)

El Ouazzani et al. 2019, **MA**, Lac Ouiouane, **HA**, Ouirgane

*Bradysia placida* (Winnertz, 1867)

El Ouazzani et al. 2019, **HA**, Ouirgane

*Bradysia promissa* Mohrig & Röschmann, 1999

El Ouazzani et al. 2019, **Rif**, Beni Barou, Anissar (PNPB), Oued Tkarâa (PNPB), Taida, Marabout Moulay Abdelsalam

*Bradysia reflexa* Tuomikoski, 1960

El Ouazzani et al. 2019, **HA**, Ouirgane

*Bradysia regularis* (Lengersdorf, 1934)

El Ouazzani et al. 2019, **Rif**, Talassemthane (maison forestière), **HA**, Ouirgane

*Bradysia ruginosa* Mohrig, 1994

Mohrig et al. 1997, **SA**, Ablino (15 km N Goulimine); El Ouazzani et al. 2019, **Rif**, Jebel Lakraâ, Aïn El Fakir, **HA**, Amizmiz

*Bradysia santorina* Mohrig & Menzel, 1992

Mohrig et al. 1997, **AA**, Sidi Rbat (40 km S Agadir)

*Bradysia scabricornis* Tuomikoski, 1960

El Ouazzani et al. 2019, **Rif**, Oued Ouara, Maggou, Oued Azla, Douar El Hamma, **HA**, Ouirgane, Setti Fatma, Oued Imlil

*Bradysia subrufescens* Mohrig & Krivosheina, 1989

El Ouazzani et al. 2019, **HA**, Ouirgane

*Bradysia subsantorina* Mohrig & Kauschke, 1997

El Ouazzani et al. 2019, **HA**, Ouirgane

*Bradysia tilicola* (Loew, 1850)

El Ouazzani et al. 2019, **Rif**, Douar Tissouka, **MA**, Lac Ouiouane, **HA**, Ouirgane

*Bradysia transitata* Rudzinski & Baumjohann, 2013

El Ouazzani et al. 2019, **Rif**, Oued Ez-Zarka, Oued Tkarâa (PNPB), Oued Laou, **AP**, Larache (Strawberry farm), Forêt Maâmora, **AA**, Barrage Aoulouz, Assif Tifnout

*Bradysia trivittata* (Staeger, 1840)

Mohrig and Röschmann 1993, **HA**, **AA**, Sidi Rbat (40 km S Agadir); El Ouazzani et al. 2019, **Rif**, Aïn Tayattine, Oued Ez-Zarka, Oued Bayine, Beni Barrou, Douar El Hamma, Douar Mouarâa, Tétouan, **MA**, Lac Ouiouane, **HA**, Télouet, Ouirgane

*Bradysia vagans* (Winnertz, 1868)

misidentified as *Bradysia rufescens* (Zetterstedt, 1852) in Röschmann and Mohrig 1993: 111

Röschmann and Mohrig 1993, **HA**, Talouete; El Ouazzani et al. 2019, **Rif**, Aïn Fouara, **HA**, Ouirgane

*Bradysia xenoreflexa* Mohrig & Menzel, 1993

El Ouazzani et al. 2019, **AP**, Forêt Maâmora

***Bradysiopsis* Tuomikoski, 1960***Bradysiopsis vittata* (Meigen, 1830)

El Ouazzani et al. 2019, **HA**, Setti Fatma

***Camptochaeta* Hippa & Vilkamaa, 1994***Camptochaeta jeskei* (Mohrig & Röschmann, 1993)

= *Corynoptera jeskei* Mohrig and Röschmann, in Röschmann and Mohrig 1993: 109  
Röschmann and Mohrig 1993, **HA**, Talouete (1800 m)

***Corynoptera* Winnertz, 1867***Corynoptera andalusica* Hippa, Vilkamaa & Heller, 2010

El Ouazzani et al. 2019, **MA**, Lac Ouiouane, **HA**, Ouirgane

*Corynoptera bicuspidata* (Lengersdorf, 1926)

Hippa et al. 2010, **HA**, Ouirgane, Lac Ouiouane

*Corynoptera bispinulosa* Mohrig & Dimitrova, 1992

El Ouazzani et al. 2019, **EM**, Tafoughalt

*Corynoptera caesula* Hippa & Menzel, 2004

El Ouazzani et al. 2019, **Rif**, Aïn Kchour, **AP**, Forêt Maâmora

*Corynoptera cincinnata* Mohrig & Blasco-Zumeta, 1996

Hippa et al. 2010, **HA**, Ouirgane

*Corynoptera dentiforceps* (Bukowski & Lengersdorf, 1936)

El Ouazzani et al. 2019, **HA**, Ouirgane

*Corynoptera deserta* Heller & Menzel, 2006

El Ouazzani et al. 2019, **HA**, Ouirgane

*Corynoptera fatigans* (Johannsen, 1912)

= *Corynoptera perpusilla* Winnertz, 1867, in Mohrig et al. 1997: 384

Mohrig et al. 1997, **HA**, Anezal; Hippa et al. 2010 [for nomenclature see Mohrig et al. 2013]

*Corynoptera gemina* (Hippa & Vilkamaa, 1994)

El Ouazzani et al. 2019, **HA**, Ouirgane

*Corynoptera globiformis* (Frey, 1945)

El Ouazzani et al. 2019, **Rif**, Talassemrane (maison forestière)

*Corynoptera hemiacantha* Mohrig & Mamaev, 1992

El Ouazzani et al. 2019, **HA**, Ouirgane

*Corynoptera iberica* Hippa, Vilkamaa & Heller, 2010

El Ouazzani et al. 2019, **AP**, Forêt Maâmora, Sidi Boughaba

*Corynoptera inclinata* Hippa, Vilkamaa & Heller, 2010

Hippa et al. 2010, **HA**, Ouirgane

*Corynoptera irmgardis* (Lengersdorf, 1930)

Hippa et al. 2010, **HA**, Ouirgane

*Corynoptera postglobiformis* Mohrig, 1993

El Ouazzani et al. 2019, **Rif**, Talassemrane (maison forestière), **HA**, Ouirgane

*Corynoptera praeparvula* Mohrig & Krivosheina, 1983

El Ouazzani et al. 2019, **HA**, Ouirgane, Amizmiz, Gerifodene

*Corynoptera saccata* Tuomikoski, 1960

Hippa et al. 2010, **SA**, Goulimine; Mohrig et al. 2012

*Corynoptera semipedestris* Mohrig & Blasco-Zumeta, 1996

Mohrig et al. 1997, **SA**, Ablino (15 km N Goulimine)

*Corynoptera spiciceps* Hippa, Vilkamaa & Heller, 2010

Hippa et al. 2010, **HA**, Ouirgane

*Corynoptera stipidaria* Mohrig, 1994

Hippa et al. 2010, **HA**, Ouirgane

*Corynoptera subcavipes* Menzel & Smith, 2007

El Ouazzani et al. 2019, **Rif**, Douar El Hamma, Talassemrane (maison forestière)

*Corynoptera subparvula* Tuomikoski, 1960

El Ouazzani et al. 2019, **HA**, Ouirgane

### ***Epidapus* Haliday, 1851**

*Epidapus atomarius* (De Geer, 1778)

El Ouazzani et al. 2019, **Rif**, Aïn el Ma Bared (Fifi)

### ***Leptosciarella* Tuomikoski, 1960**

*Leptosciarella dives* (Johannsen, 1912)

Mohrig et al. 2012, **HA**, Ouirgane

*Leptosciarella parcepilosa* (Strobl, 1900)

El Ouazzani et al. 2019, **AP**, Sidi Boughaba

*Leptosciarella subviatica* Mohrig & Menzel, 1997

El Ouazzani et al. 2019, **HA**, Ouirgane

*Leptosciarella tomentosa* (Mohrig & Kauschke, 1994)

El Ouazzani et al. 2019, **AP**, Forêt Maâmora

### ***Lycoriella* Frey, 1942**

*Lycoriella agraria* (Felt, 1898)

El Ouazzani et al. 2019, **Rif**, Douar Tissouka



*Lycoriella sativae* (Johannsen, 1912)

El Ouazzani et al. 2019, **Rif**, M'Diq, Oued Zaouya, **AP**, Larache (strawberry farm), **HA**, Ouirgane

***Pseudolycoriella* Menzel & Mohrig, 1998**

*Pseudolycoriella morenae* (Strobl, 1900)

El Ouazzani et al. 2019, **Rif**, Perdicaris Park, Bab Tariouant, Oued Maggou, **EM**, Zegzel, **HA**, Ouirgane

***Scatopsiara* Edwards, 1927**

*Scatopsiara* (*Scatopsiara*) *atomaria* (Zetterstedt, 1851)

= *Scatopsiara vivida* (Winnertz, 1867), in Röschmann and Mohrig 1993: 111

Röschmann and Mohrig 1993, **HA**, Talouete; El Ouazzani et al. 2019, **Rif**, Oued Ez-Zarka, Oued Tkarâa (PNPB), Oued Guallet, Marécage Lemtahane (PNPB), Oued Ametrasse, Issaguen, Talassemthane (maison forestière), Douar El Hamma, Aïn Fouara, Oued Souk El Had, Merzouk Bni Salah, Oued Maggou, **AP**, Sidi Boughaba, **HA**, Assif Tifnout, Gerifodene, Armed, Amzmiz, Lac Tislit, **AA**, Barrage Mokhtar Soussi

*Scatopsiara* (*Scatopsiara*) *maroccoensis* Mohrig & Jaschhof, 1997

Mohrig et al. 1997, **AA**, Sidi Rbat (40 km S Agadir)

*Scatopsiara* (*Scatopsiara*) *nana* (Winnertz, 1871)

El Ouazzani et al. 2019, **Rif**, Oued Ez-Zarka, Oued Maâmala, Oued Aârkob, Ben Karrich, Merja Sidi Lhaj Merzouk, Tétouan, **HA**, Ouirgane, Anafgou

*Scatopsiara* (*Scatopsiara*) *vitripennis* (Meigen, 1818)

El Ouazzani et al. 2019, **Rif**, Oued Ouarra, Oued Tkarâa (PNPB), Oued Aoudour, Oued Ametrasse, Oued Aârkob, Oued Boumarouil, Ben Karrich, Dayat Tazia, Aïn El Fakir, Azib de Khmis Mdik, Merzouk Bni Salah, Oued Souk El Had, Oued Maggou, El Malâab (Talamtane), **AP**, Sidi Boughaba, **MA**, Lac Ouiouane, **HA**, Ouirgane, **AA**, Barrage Aoulouz, Assif Tifnout, Barrage Mokhtar Soussi

*Scatopsiara* (*Xenopygina*) *curvilinea* (Lengersdorf, 1934)

El Ouazzani et al. 2019, **AP**, Sidi Boughaba, **HA**, Aïn Taferaout, Amzmiz, **AA**, Assif Tifnout, Barrage Mokhtar Soussi

*Scatopsiara* (*Xenopygina*) *subarmata* Mohrig & Mamaev, 1983

El Ouazzani et al. 2019, **Rif**, Oued Amsa, **AP**, Larache, **MA**, Mont Habri, **HA**, Ouirgane, **AA**, Id Aissa, Tissint

***Schwenckfeldina* Frey, 1942**

*Schwenckfeldina carbonaria* (Meigen, 1830)

= *Sciara carbonaria* Meigen, in Séguy 1941d: 2

Séguy 1941d, **HA**, Tizi-n'Test (2000 m)

***Sciara* Meigen, 1803**

*Sciara flavimana* Zetterstedt, 1851

El Ouazzani et al. 2019, **Rif**, Douar El Hamma

*Sciara hemerobioides* (Scopoli, 1763)

= *Lycoria* (*Sciara*) *thomae* Linnaeus, in Becker and Stein 1913: 85

Becker and Stein 1913, **Rif**, Tanger

## Suborder BRACHYCERA

### Stratiomyoidea

#### STRATIOMYIDAE

K. Kettani, N. Woodley

Number of species: **40**. Expected: 50–60

Faunistic knowledge of the family in Morocco: moderate

#### Beridinae

##### ***Beris* Latreille, 1802**

*Beris rozkosnyi* Kassebeer, 1996

Kassebeer 1996; Woodley 2001, **MA**, Meknès, Ifrane; Kehlmaier 2004; Yimlahi et al. 2017

##### ***Chorisops* Rondani, 1856**

*Chorisops tunisiae* (Becker, 1915)

Haenni 1990, **Rif**, Tanger; Woodley 2001; Kehlmaier 2004; Mason et al. 2006; Koçak and Kemal 2010; Yimlahi et al. 2017; Lebard et al. 2020

#### Clitellariinae

##### ***Pycnomalla* Gerstaecker, 1857**

*Pycnomalla aterrima* Sack, 1912

Séguy 1930a, **MA**, Tizi-s'Tkrine (1700 m); Séguy 1953a, **MA**, Dayat Aoua; Woodley 2001; Yimlahi et al. 2017

*Pycnomalla auriflua* (Erichson, 1841)

Séguy 1930a, **MA**, Soufouloud (1900–2100 m), Boulhaut; Duisit 1960, **AP**, Cap Cantin; Woodley 2001

*Pycnomalla splendens* (Fabricius, 1787)

Séguy 1930a; Séguy 1953a, **MA**, Dayat Aoua; Duisit 1960, **AP**, forest of Maâmora, Casablanca, Cap Cantin; Rozkošný 1983, **AP**, Cap Cantin; Woodley 2001; Kehlmaier 2004; Koçak and Kemal 2010; Yimlahi et al. 2017

#### Nemotelinae

##### ***Lasiopa* Brullé, 1832**

*Lasiopa benoisti* Séguy, 1930

Séguy 1930a, **MA**, Meknès; Duisit 1960, **EM**, Aïn Guettara (Middle Moulouya); Woodley 2001; Koçak and Kemal 2010; Yimlahi et al. 2017

*Lasiopa pantherina* Séguy, 1930

Séguy 1930a, **EM**, Maharidja; Woodley 2001; Yimlahi et al. 2017

***Nemotelus* Geoffroy, 1762***Nemotelus* (*Camptopelta*) *nigrinus* Fallén, 1817Duisit 1960, **AP**, Khatouat (S Rabat); Dakki 1997; Woodley 2001; Yimlahi et al. 2017*Nemotelus* (*Nemotelus*) *atriceps* Loew, 1856Yimlahi et al. 2017, **AA**, village Massa*Nemotelus* (*Nemotelus*) *cingulatus* Dufour, 1852Rozkošný 1977, **AP**, Skhirat; Rozkošný 1983, **Rif**, Tanger; Woodley 2001; Yimlahi et al. 2017, **Rif**, Dayat Afrate, Oued Koub*Nemotelus* (*Nemotelus*) *cylindricornis* Rozkošný, 1977Faucheux 2009, **AP**, Oualidia*Nemotelus* (*Nemotelus*) *danielssoni* Mason, 1989Yimlahi et al. 2017, **Rif**, Oued Izelfane (Beni Boufrah)*Nemotelus* (*Nemotelus*) *latiusculus* Loew, 1871Lindner 1949; Rozkošný 1977; Rozkošný 1983, **Rif**, Tanger; Woodley 2001; Kehlmaier 2004; Yimlahi et al. 2017, **Rif**, Barrage Moulay Bouchta*Nemotelus* (*Nemotelus*) *longirostris* (Wiedemann, 1824)Becker and Stein 1912, 1913, **Rif**, Tanger; Séguy 1930a, **Rif**, Tanger; Duisit 1960, **AP**, Mechra-bel-Ksiri (Gharb), **EM**, Saïdia, Rozkošný 1977; Dakki 1997; Woodley 2001; Yimlahi et al. 2017*Nemotelus* (*Nemotelus*) *maculiventris* Bigot, 1861Yimlahi et al. 2017, **Rif**, Oued Zandoula*Nemotelus* (*Nemotelus*) *nigrifrons* Loew, 1846Linder 1936; Becker and Stein 1912, **Rif**, Tanger; Rozkošný 1977, **Rif**, Tanger; Woodley 2001; Yimlahi et al. 2017, **Rif**, affluent Tarmast (NPH)*Nemotelus* (*Nemotelus*) *pantherinus* (Linnaeus, 1758)Séguy 1930a, **Rif**, Tanger; Duisit 1960, **AP**, Zëar; Rozkošný 1977; Dakki 1997; Woodley 2001; Koçak and Kemal 2010; Üstüner and Hasbenli 2013; Yimlahi et al. 2017*Nemotelus* (*Nemotelus*) *proboscideus* Loew, 1846

Linder 1936; Yimlahi et al. 2017

*Nemotelus* (*Nemotelus*) *subuliginosus* Rozkošný, 1974Rozkošný 1977; Woodley 2001, **Rif**, Tanger; Yimlahi et al. 2017*Nemotelus* (*Nemotelus*) *ventralis* Meigen, 1830Woodley 2001, **AP**, Essaouira; Yimlahi et al. 2017*Nemotelus* (*Nemotelus*) *uliginosus* (Linnaeus, 1767)Duisit 1960, **AP**, Dradek

## Pachygastrinae

***Pachygaster* Meigen, 1803***Pachygaster atra* Panzer, 1798Yimlahi et al. 2017, **Rif**, Dayat Mezine

*Pachygaster maura* Lindner, 1939

Lindner 1939; Woodley 2001, **MA**, Tagzirt; Yimlahi et al. 2017

## Sarginae

***Chloromyia* Duncan, 1837***Chloromyia formosa* (Scopoli, 1763)

Becker and Stein 1912, 1913, **Rif**, Tanger; Séguy 1930a, **HA**, M'Rassine; Duisit 1960, **AP**, Rabat, Korifla, Khatouat; Woodley 2001; Pârvu et al. 2006, **AP**, Merja Zerga; Pârvu and Zaharia 2007; Popescu-Mirceni 2011; Yimlahi et al. 2017, **Rif**, Taghbalout, Lac Ametrasse, Douar Kitane

## Stratiomyinae

## Oxycerini

***Oxycera* Meigen, 1803***Oxycera germanica* (Szilády, 1932)

= *Hermione drieri* var. *barbarica*, in Vaillant 1956b: 232, 237, 242

Vaillant 1956b, **HA**, Lac Tamhda (Anremer), Tahanaout, Sidi Chamarouch, Aguelmous

*Oxycera ochracea* (Vaillant, 1950)

= *Hermione ochracea* Vaillant, in Vaillant 1956b: 237, 244

Vaillant 1956b, **HA**, Lac Tamhda (Anremer), Imi-N'Ifri

*Oxycera pardalina* (Meigen, 1822)

Yimlahi et al. 2017, **Rif**, Oued Abou Bnar (NPT), Oued Maggou, Oued Achekrade, Ruisseau maison forestière (NPT), **MA**, Cascade Aïn Vittel, Mchacha Aïn Vittel

*Oxycera rara* (Scopoli, 1763)

= *Hermione pulchella* var. *similis* Vaillant, in Vaillant 1956b: 242

Vaillant 1956b, **HA**, Sidi Chamarouch, Imi-N'Ifri

*Oxycera terminata* Meigen, 1822

Yimlahi et al. 2017, **Rif**, Cascade Chrafate

*Oxycera torrentium* (Vaillant, 1950)

= *Hermione torrentium* Vaillant, in Vaillant 1956b: 240, 241

Vaillant 1956b, **HA**, Izourar

*Oxycera trilineata* (Linnaeus, 1767)

= *Hermione bucheti* Séguy, in Séguy 1939: 62

= *Hermione trilineata* var. *algira* Vaillant, in Vaillant 1956b: 244

Becker and Stein 1912, 1913, **Rif**, Tanger; Séguy 1930a; Villeneuve 1933; Vaillant 1956b, **HA**, Imi-N'Ifri; Woodley 2001; Üstüner and Hasbenli 2013; Yimlahi et al. 2017, **Rif**, Dayat Aïn Jdioui

***Vanoyia* Villeneuve, 1908***Vanoyia tenuicornis* (Macquart, 1834)

Lindner 1936; Woodley 2001, **Rif**, Tanger; Yimlahi et al. 2017

## Stratiomyini

***Odontomyia* Meigen, 1803***Odontomyia alolena* (Séguy, 1930)= *Eulalia alolena* Séguy, in Séguy 1930a: 65Séguy 1930a, **Rif**, Tanger, **EM**, Maharidja, **AP**, Casablanca, **MA**, Aïn Leuh (1400–1500 m); Dakki 1997; Woodley 2001, **Rif**, Tanger, **EM**, Maharidja, **AP**, Casablanca, **MA**, Aïn Leuh; Yimlahi et al. 2017*Odontomyia angulata* (Panzer, 1798)Becker and Stein 1912, 1913, **Rif**, Tanger; Woodley 2001; Koçak and Kemal 2010; Mohammadi and Khaghaninia 2015; Yimlahi et al. 2017*Odontomyia discolor* (Loew, 1846)Becker and Stein 1912, 1913, **Rif**, Tanger; Rozkošný 1982, **Rif**, Tanger; Woodley 2001; Koçak and Kemal 2010; Üstüner and Hasbenli 2013; Yimlahi et al. 2017*Odontomyia flavissima* (Rossi, 1790)= *Hadracantha flavissima nigripes* Pleske, in Pleske 1925: 27, 32; Séguy 1930a: 66= *Eulalia flavissima* Rossi, in Duisit 1960: 121Séguy 1926a; Séguy 1930a; Duisit 1960, **MA**, Boulhaut; Dakki 1997; Woodley 2001; Yimlahi et al. 2017*Odontomyia limbata* (Wiedemann, 1822)= *Eulalia limbata* Wiedemann, in Séguy 1930a: 65Becker and Stein 1912, 1913, **Rif**, Tanger; Séguy 1930a, **Rif**, Tanger, **MA**, Meskedell (1800–1900 m); Dakki 1997; Woodley 2001; Yimlahi et al. 2017, **Rif**, Lac Ametrasse, Aïn Sidi Brahim Ben Arrif, Dayat Afrate, ruisseau maison forestière (NPT), Aïn El Malaâb (NPT), Dayat Rmali El Malaâb (NPT), Dayat Tazia; **Rif** (Tahaddart) – MISR*Odontomyia microcera* (Séguy, 1930)= *Eulalia microcera* Séguy, in Séguy 1930a: 65Séguy 1930a; Dakki 1997; Woodley 2001, **MA**, Meknès (550 m); Yimlahi et al. 2017***Stratiomys* Geoffroy, 1762***Stratiomys cenisia* Meigen, 1822Séguy 1930a, **Rif**, Tanger, **AP**, Rabat, Sidi Bettache, **MA**, Tizi-s'Tkrine (Jebel Ahmar, 1700 m), Meknès, Aïn Sferguila, **HA**, Timhadit; Duisit 1960, **AP**, Maâmora, **MA**, Arhbala (1700 m); Dakki 1997; Woodley 2001; Koçak and Kemal 2010; Mohammadi and Khaghaninia 2015; Yimlahi et al. 2017*Stratiomys longicornis* (Scopoli, 1763)= *Stratiomys (Hirtea) anubis* Wiedemann, in Séguy 1930a: 63Séguy 1930a, **EM**, Itzer (Haute Moulouya), **AP**, Chellah (Rabat), Casablanca, **MA**, Ras el Ksar (1900 m), **HA**, Marrakech; Duisit 1960, **AP**, Rabat, **MA**, Aguelmane Azigza (1800 m); Dakki 1997; Woodley 2001; Barták and Kubik 2005; Koçak and Kemal 2010; Üstüner and Hasbenli 2013; Yimlahi et al. 2017

## Tabanoidea

### ATHERICIDAE

K. Kettani, M. Mouna

Number of species: **2**. Expected: 2

Faunistic knowledge of the family in Morocco: good

#### Athericinae

##### *Atherix* Meigen, 1803

*Atherix amicorum* (Thomas, 1985)

= *Ibisia amicorum* Thomas, in Thomas 1985: 89

Thomas 1985, **HA**, Oued Réghaya near Marabout Sidi Chamarouch (Toubkal, 2310 m); Boumezzough and Thomas 1987

*Atherix maroccana* (Séguy, 1930)

= *Ibisia maroccana* Séguy, in Thomas et al. 1995: 64

Séguy 1930a, **MA**, Oued Tigrigra; Thomas et al. 1995, **MA**, Oued Tigrigra (900 m), Timahdit (1830 m), **HA**, Asif Aït Bou Guemmaz (1900 m); Dakki 1997

### RHAGIONIDAE

K. Kettani, M.J. Ebejer

Number of species: **4**. Expected: 7

Faunistic knowledge of the family in Morocco: poor

#### Rhagioninae

##### *Chrysopilus* Macquart, 1826

*Chrysopilus asiliformis* (Preyssler, 1791)

= *Chrysopilus aureus* (Meigen, 1804), in Séguy 1941a: 29; Dakki 1997: 62

Séguy 1941a, **HA**, Tachdirt (Toubkal, 2500 m); Dakki 1997

*Chrysopilus pullus* Loew, 1869

Ebejer et al. 2019, **Rif**, Jebel Lakraâ (NPT, 1377–1541 m), Adrou (PNPB, 556 m)

*Chrysopilus splendidus* (Meigen, 1820)

Ebejer et al. 2019, **Rif**, Oued Kbir (Béni Ratene, 157 m)

*Chrysopilus tsacasi* Thomas, 1979

Thomas 1979, **HA**, Jebel Toubkal (Tachdirt, 2500 m); Boumezzough and Thomas 1987, **HA**, Oued Réghaya (Imlil, 1750 m), l'azib Oukaïmeden (2730 m); Dakki 1997; Kerr 2004

**TABANIDAE**

K. Kettani

Number of species: **69**. Expected: 75

Faunistic knowledge of the family in Morocco: good

Chrysopsinae

Chrysopsini

***Chrysops* Meigen, 1803**

*Chrysops caecutiens* Linnaeus, 1758

El Haouari and Kettani 2014, **Rif**, Oued Rha, Oued Samsa, Oued Laou (Afer-tane), Oued Jnane Niche, Oued Berranda, Oued Biyada; El Haouari et al. 2014, **HA**, Imi-n'Tadart

*Chrysops connexus* Loew, 1858

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **MA**, Timhadit, Oued Yquem, Volubilis, Kenitra, Meknès, **Rif**, Tanger; Leclercq 1967; Leclercq and Maldès 1987; Chvála et al. 1972; **SA** (Guelmim) – MISR

*Chrysops flavipes* Meigen, 1804

= *Heterochrysops perspicillaris* Loew, in Séguy 1930a: 79

= *Chrysops punctifer* Loew, in Séguy 1930a, 79

Séguy 1930a, **AP**, Mogador, **EM**, Haute Moulouya, **MA**, Fès, Volubilis, **AA**, Taroudant; Leclercq 1967, **AA**, Agadir-Tissint (Rocade du Draa); Chvála et al. 1972; Leclercq and Maldès 1987; Kiliç 1999; Müller et al. 2012

*Chrysops italicus* Meigen, 1804

Chvála et al. 1972; Leclercq and Maldès 1987; Müller et al. 2012

*Chrysops mauritanicus* Costa, 1893

Séguy 1930a, **AP**, Rabat, Fedhala, Larache, **MA**, Itzer, **HA**, Haute Réghaya; Leclercq 1967, **AP**, Rabat (salt marshes on *Salicornia*); Chvála et al. 1972; Leclercq and Maldès 1987; **AP** (Kénitra) – MISR

*Chrysops pallidiventris* Kröber, 1922

Séguy 1930a, **AP**, Mogador, **MA**, Fès; Leclercq 1967; Chvála et al. 1972; Leclercq and Maldès 1987; Pape and Thompson 2019

*Chrysops relictus* Meigen, 1820

Chvála et al. 1972; El Haouari and Kettani 2014, **Rif**, Oued Kbir (Tamuda), Oued Kelaâ (Talembote), Oued Bou Ahmed, Oued Jnane Niche, Oued Berranda, Oued Biyada; El Haouari et al. 2014, **HA**, Imi-n'Tadart, Oulmès, Setti Fatma, Tafza

*Chrysops viduatus* (Fabricius, 1794)

El Haouari et al. 2014, **HA**, Setti Fatma

***Silvius* Meigen, 1920**

*Silvius algirus* Meigen, 1830

Séguy 1930a; Leclercq and Maldès 1987; Kiliç 1999



*Silvius alpinus* (Scopoli, 1763)

= *Silvius vituli* Fabricius, 1805, in Séguy 1930a: 78

Séguy 1930a, **MA**, Meknès, Forêt Zaers; Leclercq and Maldès 1987, **AP**, Rabat, **EM**, Béni Snassen, Haute Moulouya, **MA**, Aïn Leuh

*Silvius variegatus* (Fabricius, 1805)

= *Diachlorus maroccanus* Bigot, in Surcouf 1921: 143; Séguy 1930a: 78

Surcouf 1921, **Rif**, Tanger; Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **Rif**, Tanger, **AP**, Rabat, **EM**, Haute Moulouya; Leclercq 1960, **Rif**, Tanger, **AP**, Larache, Rabat, Salé **EM**, Haute Moulouya; Leclercq 1967; Leclercq and Maldès 1987; Koçak and Kemal 2013a; **AP** (Rabat, Larache) – MISR

## Pangoniinae

## Pangoniini

***Pangonius* Latreille, 1802***Pangonius alluaudi* Séguy, 1930

Séguy 1930a, **MA**, Azrou, Aïn Leuh, Timhadit, Tasrah des Ighrethane, Talzent, Aharmoumou; Leclercq 1967, **MA**, Ifrane; Leclercq and Maldès 1987; **MA** – MISR

*Pangonius brevicornis* (Kröber, 1921)

Leclercq 1967; Leclercq and Maldès 1987

*Pangonius hassani* (Leclercq, 1968)

Leclercq 1968, **MA**, Ifrane, Dayat Aoua; Leclercq and Olsufjev 1975; Leclercq and Maldès 1987, **MA**, Sidi Allal El Bahraoui

*Pangonius haustellatus* (Fabricius, 1781)

= *Pangonius marginata* (Fabricius, 1805), in Séguy 1930a: 74

= *Pangonius aterrima* Dufour 1853, in Séguy 1930a: 74

= *Pangonius funebris* Macquart, 1846, in Séguy 1930a: 74

Séguy 1930a, **MA**, Volubilis, Tizi-s'Tkrine, Aïn Leuh, Azrou, **HA**, Asni; Leclercq 1961b, **MA**, Ifrane; Leclercq 1967, 1968; Chvála and Lyneborg 1970; Leclercq and Maldès 1987, **MA**, Sidi Allal El Bahraoui (forest of *Quercus suber* of Maâmora); Müller et al. 2012; **AP** (Dradek near Rabat, Kénitra), **MA** (wide distribution between Azrou and Ras el Ma), **HA** – MISR

*Pangonius mauritanus* (Linnaeus, 1767)

= *Pangonius funebris* Fabricius, 1794, in Séguy 1930a: 76

= *Pangonius maculatus* (Fabricius), in Séguy 1953a: 78

Séguy 1930a; Séguy 1953a, **AP**, Cap Ghir; Séguy 1949a, **AA**, Guelmim; Leclercq 1967; Leclercq and Maldès 1987, **MA**, Maamar (800 m); **AP** (Dradek, El Maazi, Mazagan) – MISR

*Pangonius micans* Meigen, 1820

Leclercq and Maldès 1987

*Pangonius powelli* Séguy, 1930<sup>12</sup>

= *Pangonius sobradieli* Séguy, 1934e: 21

Séguy 1930a, **MA**, Bekrit, Tizi-s'Tkrine, Soufouloud; Séguy 1934e; Séguy 1949a, **AA**, Guelmim; Leclercq and Maldès 1987

*Pangonius raclinae* Leclercq, 1960

Leclercq 1960, **HA**, Tifni by Demnate; Leclercq 1967; Leclercq and Maldès 1987; Bisby et al. 2011

## Philolichini

### *Ectinocerella* Séguy, 1929

*Ectinocerella surcoufi* Séguy, 1929

= *Pangonius ectinocerella surcoufi* Séguy, in Séguy 1929a: 100

Séguy 1929a, **MA**, Azrou, Ank El Djemel **AA**, Agadir; Séguy 1930a, **MA**, Azrou, **AA**, Agadir; Leclercq and Maldès 1987, **MA**, From Meknès to Khemisset, near Beth river; Leclercq 1967; **HA** (Tifni) – MISR

## Tabaninae

### Diachlorini

### *Dasybasis* Macquart, 1847

*Dasybasis barbata* Coscaron & Philip, 1967

= *Surcoufia barbata* Bigot, 1892, in Séguy 1930a: 78

= *Surcoufia paradoxa* Kröber, 1925, in Séguy 1930a: 78

Séguy 1930a, **Rif**, Tanger

### *Dasyrhamphis* Enderlein, 1922

*Dasyrhamphis algirus* (Macquart, 1838)

= *Atylotus algirus* Auct, in Séguy 1930a: 82

Séguy 1930a, **AP**, Dradek, **EM**, Oujda, **HA**, Talouet Glaoua; Chvála et al. 1972; Leclercq and Maldès 1987; **AP** (Sibara) – MISR

*Dasyrhamphis anthracinus* (Meigen, 1820)

= *Atylotus anthracinus* Surcouf, 1924, in Séguy 1930a: 82

Séguy 1930a, **AP**, Rabat, Sidi Bettache, **MA**, M'Rirt, Aïn Sferguila, Volubilis

*Dasyrhamphis ater* (Rossi, 1790)

= *Tabanus ater* (Rossi, 1790), in Becker and Stein 1913: 77

= *Atylotus ater* Barotte, 1926, in Séguy 1930a: 82

= *Dasyrhamphis ater* (Rossi, 1790), in Leclercq and Maldès 1987: 80

<sup>12</sup> *Pangonius sobradieli*, said to be known from Morocco, was considered to be the same species as *P. powelli* by Chvála et al. (1972: 90).

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **MA**; Leclercq 1967, **MA**, Ifrane; Leclercq and Maldès 1987, **HA**, Jebel Tazzeka, Bab Ahzar (1200 m), Idni (1700 m); **MA**  
– MISR

*Dasyrhamphus tomentosus* (Macquart, 1846)

= *Atylotus tomentosus* Macquart, in Séguy 1930a: 84

Séguy 1930a, **AP**, Rabat, Oued Cherrat, **MA**, Azrou, El Hajeb, Meknès, Aïn Leuh, Tizi-S'Tkrine, Forêt Tiffert, Talzent, Tazarine, Meskedall; Séguy 1949a, **AA**, Guelmim; Leclercq and Maldès 1987

*Dasyrhamphus villosus* (Macquart, 1838)

= *Atylotus villosus* Macquart, 1838, in Séguy 1930a: 84

Séguy 1930a, **MA**, Tameghilt; Leclercq 1967; Leclercq and Maldès 1987; **MA**  
– MISR

*Dasyrhamphus nigritus* (Fabricius, 1794)

= *Theriopectes alexandrinus* Wiedemann, 1830, in Séguy 1930a: 83

Séguy 1930a, **MA**, Aïn Leuh, El Hajeb, M'Rirt, Dar M'Tougui, Dar Kaid M'Tougui, **EM**, Oujda; Leclercq and Maldès 1987

## Haematopotini

### ***Haematopota* Meigen, 1803**

*Haematopota algira* Kröber, 1922

Séguy 1930a; Leclercq 1961b, **MA**, Dayat Aoua; Leclercq 1967; Leclercq 1968, **MA**, Bab Ferrich, Dayat Aoua; Leclercq and Maldès 1987

*Haematopota benoisti* Séguy, 1930

Séguy 1930a, **AP**, Rabat, **MA**, M'Rirt; Leclercq 1967; Leclercq and Maldès 1987; Pape and Thompson 2019

*Haematopota bigoti* Gobert, 1880

Séguy 1930a, **MA**, Volubilis; Séguy 1926a; Leclercq 1961b, **MA**, Dayat Aoua; Leclercq 1967; **MA** (Ifrane) – MISR

*Haematopota crassicornis* Wahlberg, 1848

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a

*Haematopota fuscicornis* Becker, 1914

= *Chrysozona fuscicornis* Povolny, in Becker and Stein 1913: 78

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a (*sic! fusicornis*), **MA**, Fès; Chvála et al. 1972; Leclercq and Maldès 1987

*Haematopota grandis* Meigen, 1820

Leclercq 1967, **AP**, Kénitra; Chvála et al. 1972; Leclercq and Maldès 1987

*Haematopota italica* Meigen, 1804

= *Haematopota tenuicornis* Macquart, 1834, in Séguy 1930a: 81

= *Haematopota longicornis* Macquart, 1834, in Séguy 1930a: 81

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a; Chvála et al. 1972

*Haematopota lambi* Villeneuve, 1921

Leclercq 1961b, **MA**, Dayat Aoua; Leclercq 1967, 1968; Leclercq and Maldès 1987

*Haematopota ocelligera* (Kröber, 1922)

Leclercq 1961b, **MA**, Dayat Aoua (on a horse); Leclercq 1967, **AP**, Sidi Yahia du Gharb (on *Juncus acutus*); Leclercq 1968, **MA**, Azrou; Leclercq and Maldès 1987

*Haematopota pluvialis* (Linnaeus, 1758)

Becker and Stein 1913, **Rif**, Tanger; Leclercq and Maldès 1987; El Haouari and Kettani 2014, **Rif**, Oued Rha, marshes of Smir, Oued Kbir (Tamuda), Oued Moukhata (Boujdad), Oued Azla (Mokdassen Oulya), Oued Moulay Bouchta, Oued Jnane Niche, Oued Koudiat Shiba; El Haouari et al. 2014, **HA**, Oulmès, Tafza

*Haematopota pseudolusitanica* Szilády, 1923

= *Chrysozona lusitanica* Guérin, 1835, in Séguy 1930a: 81

Séguy 1930a, **MA**, M'Rirt, Sebou; Leclercq 1967, **MA**, Sebou

*Haematopota subcylindrica* Pandellé, 1888

Leclercq 1967, **AP**, Sidi Yahia du Gharb; El Haouari and Kettani 2014, **Rif**, Oued Rha, Oued Boumarouil, Oued Jnane Niche; El Haouari et al. 2014, **HA**, Tafza

***Heptatoma* Meigen, 1803***Heptatoma pellucens* (Fabricius, 1779)

El Haouari and Kettani 2014, **Rif**, Oued Rha, Oued Achiar (Bounezzal), Oued Azla (Mokdassen Oulya), Oued Azla (Mokdassen soufla), Oued Imsa (Centre Imsa), bog of Amsemlil, Oued Ouara (Khizana), Oued Boumarouil, Oued Laou (Siflaou), Oued Talembote, Oued Laou (Afertane), Oued Tizharine, Oued Bouhya (Kantar), Bab Tariouant, Oued Taysra (Ketama), Oued Srâ (Ketama); El Haouari et al. 2014, **HA**, Imi-n'Tadart, Oulmès

## Tabanini

***Atylotus* Osten-Sacken, 1876***Atylotus agrestis* (Wiedemann, 1828)

Ovazza et al. 1968; Pape and Thompson 2019

*Atylotus agricola* Wiedemann, 1828

= *Tabanus agricola* var. *Kröberi* Surcouf, in Séguy 1953a: 78

Séguy 1953a, **SA**, entre Tagounit et Zegdou

*Atylotus fulvus* (Meigen, 1804)

Leclercq 1961b, **MA**, Aïn Leuh, Bordj Doumergue; Leclercq 1967, **Rif**, Ketama; Chvála et al. 1972; Leclercq and Maldès 1987; Barták and Kubik 2005

*Atylotus latistriatus* (Brauer, 1880)

= *Dasystipia nigrifacies* Gobert, 1881, in Séguy 1930a: 84

Séguy 1930a, **MA**, Aïn Leuh; Chvála et al. 1972; Kiliç 1999

*Atylotus loewianus* (Villeneuve, 1920)

Leclercq 1967, **MA**, Aguelmane Azigza (marshy meadow), Aguelmane de Sidi Ali Leclercq 1968; Chvála et al. 1972

*Atylotus pulchellus* Loew, 1858

Becker and Stein 1913 **Rif**, Tanger; Chvála et al. 1972

*Atylotus quadrifarius* (Loew, 1874)

Chvála et al. 1972; Müller et al. 2011

*Atylotus sublunaticornis* (Zetterstedt, 1842)

El Haouari and Kettani 2014, **Rif**, Oued Rha, Oued Kbir (Koudiat Krikra), Oued Martil, Oued Khizana, Oued Laou (Ifansa), Oued Bou Ahmed, Oued Biyada; El Haouari et al. 2014, **HA**, Imi-n'Tadart, Oulmès

***Hybomitra* Enderlein, 1922***Hybomitra arpad* Szilády 1923

El Haouari et al. 2014, **HA**, Oulmès

*Hybomitra bimaculata* Macquart, 1826

Ježek 1995; El Haouari and Kettani 2014, **Rif**, Oued Rha, marshes of Lemtane (PNPB), Oued Raouz, Oued Zarka, Oued Mokhlata (Boujdad), Oued Amsa (Er-Rifiyine), bog of Amsemlil, Oued Talembote (Talembote), Oued Jnane Niche, Oued Biyada, Oued Aârkob, Oued Sidi Yahia Aârab; El Haouari et al. 2014, **HA**, Oulmès

*Hybomitra distinguenda* (Verrall, 1909)

Ježek et al. 2012; El Haouari et al. 2014, **HA**, Imi-n'Tadart

*Hybomitra vittata* (Fabricius, 1794)

= *Straba vittata* Fabricius, 1794, in Séguy 1930a: 83

= *Tabanus spectabilis* Loew, 1858, in Séguy 1930a: 83

Séguy 1930a, **Rif**, Tanger **AP**, Maâmora, Rabat, Casablanca, **MA**, Oued Yquem, M'Rirt; Chvála and Lyneborg 1970, **Rif**, Tanger, **EM**, Haute Moulouya; Leclercq and Maldès 1987

***Tabanus* Linnaeus, 1758***Tabanus autumnalis* Linnaeus, 1761

= *Straba autumnalis* Linnaeus, 1761, in Séguy 1930a: 82

= *Straba autumnalis* var. *brunnescens* Szilády, 1941, in Séguy 1930a: 82

= *Straba autumnalis* var. *molestans* Becker, 1914, in Séguy 1930a: 83

Loew 1860; Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **AP**, Rabat, **EM**, Béni Snassen, Itzer (Haute Moulouya), **MA**, Aïn Leuh; Séguy 1953a, **HA**, Ksar-es-Souk; Leclercq 1961b, **MA**, Dayat Aoua, Aïn Leuh, Immouzer Kander; Leclercq 1967, **AP**, Kénitra (on *Mimosa* grove), Gharb (Sidi Yahia, Sidi Allal Tazi), **MA**, Adjir by Khenifra (on livestock), Leclercq 1968, **MA**, Dayat Aoua; Leclercq and Maldès 1987, **HA**, edges near river Tessaout, Kelaâ des Sraghna; Pârvu et al. 2006, **AP**, Merja Zerga, **MA**, Kasba Tadla; El Haouari et al. 2014, **HA**, Setti Fatma; **MA** (Allal Tazi) – MISR

*Tabanus barbarus* Coquebert, 1804

Becker and Stein 1913, **Rif**, Tanger; Leclercq 1961b **Rif**, Azib de Ketama; Chvála and Lyneborg 1970, **Rif**, Tanger; Portillo 1982; Leclercq and

Maldès 1987, **MA**, marshes around Kasba Tadla; Popescu-Mirceni 2011, **AP**, Merja Zerga

*Tabanus bifarius* Loew, 1858

= *Atylotus bifarius* Loew, 1858, in Séguy 1930a: 83

Séguy 1930a, **EM**, Haute Moulouya

*Tabanus bovinus* Linnaeus, 1758

Loew 1860; Séguy 1930a; Leclercq 1967; Portillo 1982; Leclercq and Maldès 1987; Barták and Kubik 2005, **MA**, M'Rirt; El Haouari and Kettani 2014, **Rif**, Oued Khemis (Khemis Anjra), Oued Kelaâ (Akchour)

*Tabanus bromius* Linnaeus, 1758

= *Straba bromius* Linnaeus, 1758, in Séguy 1930a: 83

Loew 1860; Séguy 1930a, **EM**, Haute Moulouya, **MA**, Aïn Leuh, Ras El Ksar; Leclercq 1961b, **Rif**, Azib de Ketama, **MA**, Ifrane, Immouzer, Azrou, Bordj Doumergue, Dayat Aoua, Aïn Leuh; Leclercq 1967, **MA**, Immouzer des Marmoucha, Adjir by Khenifra; Leclercq 1968, **Rif**, Ketama, **MA**, Bab-Bou-Idir, Bab Ferrich, Ifrane, Col du Zad; Pernot-Visentin and Beaucournu-Saguez 1974, **Rif**; Leclercq and Maldès 1987; El Haouari and Kettani 2014, **Rif**, Oued Samsa, Oued Raouz, Oued Zarka, Oued Khemis (Khemis Anjra), Oued Azla (Mokdassen Oulya), Oued Kelaâ (Akchour), Oued Laou (Sifalaou), Oued Jnane Niche, Oued Berranda; El Haouari et al. 2014, **HA**, Oulmès; **AA** (Errachidia) – MISR

*Tabanus choumarae* Leclercq, 1967

Leclercq 1967, **AA**, Aouinet Torkoz (down Draa); Leclercq and Olsufjev 1975; Leclercq and Maldès 1987; Pârvu et al. 2006, **AA**, Ouarzazate

*Tabanus cordiger* Meigen, 1820

Leclercq 1961b, **MA**, Bordj Doumergue, Dayat Aoua; Leclercq 1967, **Rif**, Had el Rouadi, **MA**, Arbala par Ksiba, Boulemane, **AA**, Agadir-Tissint (Rocade du Draa), Akka; Leclercq 1968, **Rif**, Ketama, **MA**, Bab Termas, Taza, Doniet; Leclercq 1986; Leclercq and Maldès 1987, **AA**, Tinmal, edges of Draa river, Agdz, Ourika near Ouarzazate; Barták and Kubik 2005; Müller et al. 2011; Popescu-Mirceni 2011, **HA**, Ouarzazate; El Haouari and Kettani 2014, **Rif**, Oued Berranda; El Haouari et al. 2014, **Rif**, Oued Oueghra

*Tabanus darimonti* Leclercq, 1964

Leclercq 1967, **MA**, Aïn Leuh; Leclercq 1968, **MA**, Bab Boudir, forêt Bab-Azhar, Immouzer Kander; Portillo 1982; Leclercq and Maldès 1987; Mikuška et al. 2008

*Tabanus eggeri* Schiner, 1868

= *Tabanus intermedius* Egger, 1859, in Séguy 1930a: 83

Séguy 1930a, **MA**, M'Rirt; Leclercq 1968, **Rif**, M'Diq, **MA**, Bab Boudir, El Hajeb, Azrou, Miscliffen; Portillo 1982; Leclercq and Maldès 1987; Mikuška et al. 2008

*Tabanus leleani* Austen, 1920

= *Atylotus leleani* Austen, 1920, in Séguy 1930a: 84

Séguy 1930a, **HA**, upstream of Réghaya; Leclercq 1967; Leclercq and Maldès 1987; **MA** – MISR

*Tabanus lunatus* Fabricius, 1794

= *Atylotus lunatus* Fabricius, 1974, in Séguy 1930a: 84

Séguy 1930a, **EM**, Haute Moulouya, **MA**, Meknès; Leclercq 1961b, **MA**, Ifrane, Immouzer, Bordj Doumergue, Dayat Aoua, Aïn Leuh; Leclercq 1967, **EM**, Haute Moulouya, **MA**, Ajdir by Khenifra (on livestock); Leclercq 1968, **Rif**, Ketama, **MA**, Bab Boudier, Immouzer Kander, El Hajeb, Mishliffen, Jebel Hebri; Portillo 1982; Leclercq and Maldès 1987, **MA**, Afourer (800 m) – MISR

*Tabanus maculicornis* Zetterstedt, 1842

El Haouari and Kettani 2014, **Rif**, Oued Rha, marshes of Lemtahane, Oued Boumarouil, Oued Laou (Dardara), Oued Kanar, Oued Jnane Niche; El Haouari et al. 2014, **HA**, Imi-n'Tadart, Oulmès, Tafza

*Tabanus miki* Brauer, 1880

El Haouari and Kettani 2014, **Rif**, Oued Khemis, Oued Boumarouil, Oued Berranda, Oued Biyada; El Haouari et al. 2014, **HA**, Setti Fatma

*Tabanus nemoralis* Meigen, 1820

Leclercq 1968, **Rif**, Ketama; Portillo 1982; Leclercq and Maldès 1987

*Tabanus quatuornotatus* Meigen, 1820

Portillo 1982; Leclercq and Maldès 1987; Koçak and Kemal 2010; Müller et al. 2011; El Haouari and Kettani 2014, **Rif**, Oued Maggou, Oued Ouara (Khizana); El Haouari et al. 2014, **HA**, Setti Fatma; **Rif** (Talassemthane) – MISR

*Tabanus sudeticus* Zeller, 1842

Leclercq 1967; Portillo 1982; Leclercq and Maldès 1987; Gioia Martins-Neto 2003

*Tabanus tinctus* Walker, 1850

Leclercq 1961b, **MA**, forêt Bab Azhar, Aïn Leuh; Pernot-Visentin and Beaucournu-Saguez 1974, **MA**, **HA** (2300 m); Portillo 1982; Leclercq and Maldès 1987; **MA** (Azrou) – MISR

**VERMILEONIDAE**

K. Kettani, M.J. Ebejer

Number of species: **6**. Expected: 6

Faunistic knowledge of the family in Morocco: good

## Vermileoninae

***Lampromyia* Macquart, 1835**

*Lampromyia cylindrica* (Fabricius, 1794)

Stuckenberg 1998, **HA**

*Lampromyia lecerfi* Séguy, 1928

= *Lampromyia Le Cerfi* Séguy, in Séguy 1928a: 45

Séguy 1928a, **HA**, Tinmel (Goundafa), Asni; Stuckenberg 1998, **HA**; Kirk-Spriggs and McGregor 2009; Kehlmaier 2014, **HA**; **AP** (Tamri) – MHNN



*Lampromyia nigripennis* Séguy, 1930

Séguy 1930a, **EM**, Berkane, grove in Tlet n'Rhoir; Stuckenberg 1998, **MA**; Kirk-Spriggs and McGregor 2009; Kehlmaier 2014, **MA**, south of Azrou (1500 m), **HA**

*Lampromyia pallida* Macquart, 1835

Stuckenberg 1998, **HA**

***Vermileo* Macquart, 1834***Vermileo vermileo* (Linnaeus, 1758)<sup>13</sup>

= *Vermileo degeeri* Macquart 1834, in Séguy 1953a: 78

Séguy 1953a, **AP**, Rabat

*Vermileo nigriventris* Strobl, 1906

Ebejer et al. 2019, **Rif**, Cap Spartel (Tanger, 15 m), Anissar (PNPB, 987 m)

**Nemestrinoidea****ACROCERIDAE**

K. Kettani, E.P. Nartshuk

Number of species: **13**. Expected: 25

Faunistic knowledge of the family in Morocco: poor

## Acrocerinae

***Acrocera* Meigen, 1803***Acrocera orbicula* (Fabricius, 1787)

Weinberg and Bächli 2002, **HA**, Marrakech, Ouirgane (1000 m)

***Cyrtus* Latreille, 1796***Cyrtus gibbus* (Fabricius, 1794)

Becker and Stein 1913, **Rif**, Tanger; Séguy 1926, **Rif**; Pleske 1930, **Rif**, Tanger; Schlinger 1972; Mouna 1998

*Cyrtus maroccanus* Séguy, 1930

Schlinger 1972, **Rif**; Mouna 1998

*Cyrtus pallidus* Gil Collado, 1929

Gil Collado 1929b, **Rif**, Tanger; Schlinger 1972; Mouna 1998

*Cyrtus pusillus* Macquart, 1834

Pleske 1930, **Rif**, Tanger; Schlinger 1972, **Rif**, Tanger; Mouna 1998

***Ogcodes* Latreille, 1797***Ogcodes zonatus* (Erichson, 1840)

Becker and Stein 1913, **Rif**, Tanger; Séguy 1926; Pleske 1930

<sup>13</sup> *Vermileo vermileo* (Linnaeus, 1758) is a species complex currently undergoing revision (Kehlmaier pers. comm.); additionally, *V. vermileo* is possibly not a species that occurs in Morocco.

***Opsebius* Costa, 1856***Opsebius cyrtus* Séguy, 1930Mouna 1998; **HA** (Lac Ifni) – MISR*Opsebius formosus* Loew, 1871Becker and Stein 1913, **Rif**, Tanger*Opsebius inclinatus* Séguy, 1930

Mouna 1998

*Opsebius inflatus* (Loew, 1857)Weinberg and Bächli 2002, **MA**, Azrou, Timahdit Ighboula (1850 m), **HA**, Marrakech, Ouirgane (1000 m)*Opsebius pepo* Loew, 1870Pleske 1930, **Rif**, Tanger

## Panopinae

***Astomella* Latreille, 1809***Astomella hispaniae* Lamarck, 1816Gil Collado 1929b, **AP**, Mogador; Mouna 1998***Physegastrella* Brunetti, 1926***Physegastrella maroccana* Brunetti, 1926

Brunetti 1926; Pleske 1930; Mouna 1998

**NEMESTRINIDAE**

K. Kettani, D. Barraclough

Number of species: **13**

Faunistic knowledge of the family in Morocco: poor

## Nemestrinae

***Nemestrinus* Latreille, 1802***Nemestrinus aegyptiacus* (Wiedemann, 1828)Timon-David 1951; Séguy 1953a, **HA**, Amsed; Bernardi 1973; Mouna 1998; **SA** (Oued el Ma) – MISR*Nemestrinus ater* (Olivier, 1810)Mouna 1998; **EM** (Zaouillet El Atenf) – MISR*Nemestrinus escalerae* Arias, 1913Paramonow 1945; Bernardi 1973, **HA**, Marrakech; Mouna 1998*Nemestrinus exalbidus* (Lichtwardt, 1907)

Mouna 1998

*Nemestrinus fasciatus* (Olivier, 1810)= *Rhynchocephalus fasciatus* Olivier, in Mouna 1998: 86Bernardi 1973; Mouna 1998; **MA** (Immouzer) – MISR

*Nemestrinus nigrovillosus* Lichtwardt, 1909

Arias 1913; Séguy 1930a, **MA**, Ras el Ma, Azrou, Forêt Tiffert (2000–2200 m), **HA**, Tizi-n'Test, Jebel Imdress (2000–2450 m), Goundafa; Séguy 1941d, **HA**, Tizi-n'Test; Timon-David 1951, **MA**, Tizi-n'Tretten; Bernardi 1973; Mouna 1998

*Nemestrinus pieltaini* (Gil Collado, 1934)

= *Nemestrellus pieltaini* Gil Collado, in Gil Collado 1934: 325

Gil Collado 1934, **Rif**, Imasinen, Bab Chiquer, Bab Bagla; Bernardi 1973; Mouna 1998

*Nemestrinus ruficornis* (Macquart, 1840)

Mouna 1998

*Nemestrinus rufipes* (Olivier, 1810)

Mouna 1998; **MA** (Timahdit) – MISR

*Nemestrinus striatus* (Lichtwardt, 1907)

Mouna 1998

## Trichopsidaeinae

***Fallenia* Meigen, 1820***Fallenia fasciata* (Fabricius, 1805)

Arias 1913; Séguy 1930a, **AP**, Casablanca, Rabat, Bou Knadel, **MA**, M'Rirt (1200 m); Timon-David 1951, **AP**, Forêt Maâmora; Mouna 1998; **AP** (Rabat, Bou Knadel), **MA** (Aïn Leuh) – MISR

***Neorhynchocephalus* Lichtwardt, 1909***Neorhynchocephalus tauscheri* (Fisher, 1812)

= *Rhynchocephalus tauscheri* Fischer, in Mouna 1998: 86

Mouna 1998

***Trichopsidea* Westwood, 1839***Trichopsidea costata* (Loew, 1857)

= *Symmictus costatus* Loew, in Arias 1913: 26, Séguy 1930a: 89

Arias 1913; Séguy 1930a, **MA**, Tameghilt (1900 m); Mouna 1998

## Asiloidea

## ASILIDAE

K. Kettani, G. Tomasovic

Number of species: **131**. Expected: 230

Faunistic knowledge of the family in Morocco: moderate

## Apocleinae

***Apoclea* Macquart, 1838***Apoclea algira* (Linnaeus, 1767)

Séguy 1953a, **AA**, Tata; Tomasovic 1997; Mouna 1998; Geller-Grimm 2007; Koçak and Kemal 2010; El Hawagry 2011; Ghahari et al. 2014

*Apoclea micracantha* Loew, 1856

Tomasovic 1997, **HA**, Sidi Mhejmed Ou Said; Geller-Grimm 2007; Koçak and Kemal 2010; El Hawagry 2011; Ghahari et al. 2014

**Eremonotus Theodor, 1980**

*Eremonotus hauseri* Geller-Grimm & Hradský, 1998

Geller-Grimm and Hradský 1998, **HA**; Geller-Grimm 2007, **AA**, Agadir

## Asilinae

**Afroepitriptus Lehr, 1992**

*Afroepitriptus beckeri* Lehr, 1992

Geller-Grimm 2007; Koçak and Kemal 2010

**Antiphrisson Loew, 1849**

*Antiphrisson trifarius* Loew, 1849

Tomasovic 1997, **HA**, Errachidia, Ziz, Oasis Zouala; Geller-Grimm 2007; Koçak and Kemal 2010; El Hawagry 2011; Ghahari et al. 2014; **HA** (Asni) – MISR

**Asilus Linnaeus, 1758**

*Asilus barbarus* Linnaeus, 1758

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a; Séguy 1941a, **HA**, Tizi-Tamatert (Toubkal, 2250 m); Mouna 1998; Weinberg and Blasco-Zumeta 2004; Geller-Grimm 2007; Koçak and Kemal 2010; Ghahari et al. 2014

*Asilus crabroniformis* Linnaeus, 1758

Geller-Grimm 2007; Hayat et al. 2008; Koçak and Kemal 2010; Ghahari et al. 2014

*Asilus tingitanus* Boisduval, 1835

Geller-Grimm 2007, **Rif**, Tanger

**Dysmachus Loew, 1860**

*Dysmachus albisetosus* (Macquart, 1850)

Geller-Grimm 2007

*Dysmachus cochleatus* (Loew, 1854)

Becker and Stein 1913, **Rif**, Tanger; Geller-Grimm 2007

*Dysmachus cristatus* (Wiedemann, 1820)

= *Dysmachus dasynotus* Loew, in Becker and Stein 1913: 72, Timon-David 1951: 138  
Becker and Stein 1913, **Rif**, Tanger; Timon-David 1951, **AP**, Rabat, Harcha, Salé, Oued Ksab, **MA**, Ifrane; Mouna 1998; Geller-Grimm 2007; **AP** (Rabat, Cap Cantia) – MISR

*Dysmachus digitulus* Becker, 1923

Geller-Grimm 2007

*Dysmachus elapsus* Villeneuve, 1933

Villeneuve 1933, **AP**, Mazagan, Mogador; Mouna 1998; Tomasovic 2001b; Geller-Grimm 2007; **AP** (Cap Cantia) – MISR

*Dysmachus evanescens* Villeneuve, 1912

Timon-David 1951, **AP**, Sehoul; Mouna 1998; Geller-Grimm 2007

*Dysmachus trigonus* (Meigen, 1804)

Timon-David 1951, **AP**, Rabat, Chellah, Forêt Maâmora, Ras el Arba, Sehoul, Zaër

***Eccoptopus* Loew, 1860**

*Eccoptopus longitarsis* (Macquart, 1838)

Timon-David 1951, **AA**, Zagora; Mouna 1998; Geller-Grimm 2007; Hayat et al. 2008; Koçak and Kemal 2010; El Hawagry 2011; Ghahari et al. 2014

***Engelepogon* Lehr, 1992**

*Engelepogon brunnipes* (Fabricius, 1794)

= *Heligmoneura brunnipes* Fabricius, in Séguy 1930a: 125

= *Acanthopleura brunnipes* Fabricius, in Timon-David 1951: 137

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **MA**, Meknès; Timon-David 1951, **MA**, Meknès; Mouna 1998; Geller-Grimm 2007; Koçak and Kemal 2010; Ghahari et al. 2014

***Epitriptus* Loew, 1849**

*Epitriptus cingulatus* (Fabricius, 1871)

Séguy 1941a, **AA**, Agadir; Mouna 1998

***Eremisca* Hull, 1962**

*Eremisca heleni heleni* (Eflatoun, 1934)

Geller-Grimm 2007; Hayat et al. 2008; Koçak and Kemal 2010; El Hawagry 2011; Ghahari et al. 2014

*Eremisca osiris* (Wiedemann, 1828)

Geller-Grimm 2007; El Hawagry 2011

***Eutolmus* Loew, 1848**

*Eutolmus wahisi* Tomasovic, 2001

Tomasovic 2001a, **Rif**, Tétouan (Jebel Tazout, 1650 m); Geller-Grimm 2007; Koçak and Kemal 2010

***Filiolus* Lehr, 1967**

*Filiolus apicalis* (Becker in Becker & Stein, 1913)

= *Eutolmus apicalis* Becker, in Becker and Stein 1913: 75

Becker and Stein 1913, **Rif**, Tanger; Geller-Grimm 2007

***Machimus* Loew, 1849**

*Machimus cribratus* (Loew, 1849)

Geller-Grimm 2007; **AP** (Cap Cantia) – MISR

*Machimus fimbriatus* (Meigen, 1804)

Geller-Grimm 2007

*Machimus fortis* (Loew, 1849)

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **AP**, Rabat; Mouna 1998; Geller-Grimm 2007

*Machimus gonatistes* (Zeller, 1840)

Geller-Grimm 2007

*Machimus mauritanicus* Bequaert, 1964

Tomasovic 2003; Geller-Grimm 2007; **AP** (Forêt Boulhaut, Salé) – MISR

*Machimus nigrosetosus* Séguy, 1941

Séguy 1941d **AA**, Agadir; Mouna 1998; Geller-Grimm 2007

*Machimus perplexus* Becker, 1915

Geller-Grimm 2007

*Machimus pilipes* (Meigen, 1820)

= *Eutolmus hispanus* Loew, in Becker and Stein 1913: 74

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **MA**, Forêt Zaers, Tizi-n'Bouftene (2300 m), **HA**, bords de l'Imminen (Tachdirt: 2400–2600 m); Geller-Grimm 2007

*Machimus pseudogonatistes* Villeneuve, 1930

= *Machimus ermineus* Becker, in Mouna 1998: 84

Villeneuve 1933; Mouna 1998; Geller-Grimm 2007

### ***Neopitriptus* Lehr, 1992**

*Neopitriptus inconstans* (Wiedemann in Meigen, 1820)

= *Machimus micropyga* Becker, in Becker and Stein 1913: 74

Becker and Stein 1913, **Rif**, Tanger; Mouna 1998; Geller-Grimm 2007; El Hawagry 2011, **Rif**, Tanger

*Neopitriptus minusculus* (Bezzi, 1898)

= *Machimus minusculus* Bezzi, in Timon-David 1951: 138, Mouna 1998: 84

Timon-David 1951, **MA**, Ifrane; Mouna 1998; Geller-Grimm 2007

### ***Neomochtherus* Osten-Sacken, 1878**

*Neomochtherus brevipennis* Séguy, 1932

Mouna 1998; Geller-Grimm 2007; Koçak and Kemal 2010

*Neomochtherus grandicollis* (Becker, 1914)

Becker and Stein 1913, **Rif**, Tanger; Geller-Grimm 2007

*Neomochtherus ochriventris* (Loew, 1854)

Timon-David 1951, **AP**, Sidi Moussa el Harati; Mouna 1998; Geller-Grimm 2007; Koçak and Kemal 2010

### ***Pashtshenkoa* Lehr, 1995**

*Pashtshenkoa clypeatus maroccanus* (Tsacas, 1968)

Geller-Grimm 2007

### ***Phileris* Tsacas & Weinberg, 1976**

*Phileris haplopygus* Tsacas & Weinberg, 1976

Geller-Grimm 2007

*Phileris pilosus* Tsacas & Weinberg, 1976

Geller-Grimm 2007

### ***Satanas* Jacobson, 1908**

*Satanas gigas* (Eversmann, 1855)

Maldès 2000, **ME**, Oujda, **HA**, Errachidia, Meski

***Turka* Özdikmen, 2008***Turka cervinus* (Loew, 1856)= *Stenopogon cervinus* Loew, in Séguy 1930a: 122Séguy 1930a, **MA**, pont de l'Oued Korifla (Zaers), **HA**, Sidi Bou Rziguine; Geller-Grimm 2007; Hayat et al. 2008; Özdikmen 2008; Koçak and Kemal 2010; El Hawagry 2011; Ghahari et al. 2014

## Dasypogoninae

***Dasypogon* Meigen, 1803***Dasypogon atratus* (Fabricius, 1794)= *Selidopogon atratus* Meigen, in Séguy 1930a: 118= *Selidopogon atratus* Fabricius, in Timon-David 1951: 136Séguy 1930a, **MA**; Timon-David 1951, **Rif**, Ouezzane, **AP**, Rabat **MA**, Oued Beth; Mouna 1998; Geller-Grimm 2007*Dasypogon auripilus* (Séguy, 1934)Mouna 1998; Geller-Grimm 2007; **AP** (Casablanca) – MISR*Dasypogon crassus* Macquart in Lucas, 1849= *Selidopogon crassus* Macquart, in Séguy 1930a: 119, Timon-David 1951: 136Séguy 1930a, **Rif**, Tanger, **MA**, Meknès; Timon-David 1951, **AP**, M'Soun, Guerrouaou; Mouna 1998; Geller-Grimm 2007*Dasypogon diadema* (Fabricius, 1781)= *Selidopogon cylindricus* Fabricius, in Séguy 1930a: 119= *Selidopogon diadema* Fabricius, in Séguy 1930a: 118= *Selidopogon sicanus* Costa, 1853, in Hayat et al. 2008: 183Séguy 1930a, **AP**, Dar Salem, Tarfaya, Oued Korifla (Zaers), **HA**, Bou Tazzert; Timon-David 1951, **AP**, Port Lyautey; Mouna 1998; Geller-Grimm 2007; Hayat et al. 2008 ; Koçak and Kemal 2010; Ghahari et al. 2014*Dasypogon gougeleti* (Bigot, 1878)= *Selidopogon gougeleti* Bigot, in Timon-David 1951: 136Becker and Stein 1913, **Rif**, Tanger; Timon-David 1951, **AP**, Oued Korifla; Mouna 1998; Geller-Grimm 2007*Dasypogon olcesci* (Bigot, 1878)Becker and Stein 1913, **Rif**, Tanger; Geller-Grimm 2007*Dasypogon rubinipes* (Becker in Becker & Stein, 1913)Becker and Stein 1913, **Rif**, Tanger; Geller-Grimm 2007*Dasypogon ruficauda* (Fabricius, 1805)

Geller-Grimm 2007

***Saropogon* Loew, 1847***Saropogon aretalogus* Séguy, 1953Séguy 1953a, **MA**, Ifrane; Geller-Grimm 2007



*Saropogon aurifrons* (Macquart in Lucas, 1850)

Timon-David 1951, **AP**, Zaers; Mouna 1998; Geller-Grimm 2007; El Hawagry 2011

*Saropogon clausus* Becker, 1906

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **EM**, Itzer, Moulay Aïn Djemine (Haute Moulouya); Timon-David 1951, **AP**, Zaers; Mouna 1998; Geller-Grimm 2007; Koçak and Kemal 2010; Ghahari et al. 2014

*Saropogon jugulum* (Loew, 1847)

Timon-David 1951, **AP**, Zaers; Mouna 1998; Geller-Grimm 2007; Hayat et al. 2008; Koçak and Kemal 2010; El Hawagry 2011; Ghahari et al. 2014

*Saropogon leucocephalus* (Meigen, 1820)

Séguy 1930a, **MA**, Forêt Tiffert (2000–2200 m); Mouna 1998; Geller-Grimm 2007; El Hawagry 2011; Ghahari et al. 2014

*Saropogon maroccanus* Séguy, 1930

Séguy 1930a, **MA**, Ras El Ksar (1900 m); Séguy 1949a, **SA**, Goulimine; Mouna 1998; Carles-Tolrá 2002; Geller-Grimm 2007

*Saropogon obscuripennis* (Macquart in Lucas, 1849)

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **AP**, Rabat, **MA**, Aïn Leuh, Tizi-s'Tkrine (1700 m), **HA**, Imi-M'Tanout, Dar M'Tougui; Séguy 1941d, **AA**, Agadir; Timon-David 1951, **EM**, Guenfouda; Mouna 1998; Geller-Grimm 2007

*Saropogon philocalus* Séguy, 1941

Séguy 1941d, **AA**, Agadir; Mouna 1998; Geller-Grimm 2007

*Saropogon rufipes* (Gimmerthal, 1847)

Becker and Stein 1913, **Rif**, Tanger; Geller-Grimm 2007

*Saropogon tassilaensis* Séguy, 1953

Séguy 1953a, **AA**, Tassila (Souss); Geller-Grimm 2007

## Dioctriinae

***Dioctria* Meigen, 1803***Dioctria atrorubens* Séguy, 1930

Séguy 1930a, **MA**, Tizi-s'Tkrine (1700 m); Villeneuve 1933; Mouna 1998; Geller-Grimm 2007

*Dioctria cothurnata* Meigen, 1820

Ebejer et al. 2019, **Rif**, Dardara (484 m)

*Dioctria fuscipes* Macquart, 1834

Timon-David 1951, **MA**, Aguelmane Sidi Ali (2070 m)

*Dioctria gagates* Wiedemann in Meigen, 1820

Becker and Stein 1913, **Rif**, Tanger; Geller-Grimm 2007

*Dioctria notha* Séguy, 1941

Séguy 1941d, **AA**, Agadir; Mouna 1998; Geller-Grimm 2007

*Dioctria rufa* Strobl, 1906

Ebejer et al. 2019, **Rif**, Dardara (484 m)

*Dioctria rungsi* Timon-David, 1951

Timon-David 1951, **MA**, Ifrane (1650 m); Mouna 1998; Geller-Grimm 2007

## Laphriinae

### ***Glyphotriclis* Hermann, 1920**

*Glyphotriclis ornatus* (Schiner, 1868)

= *Triclis ornatus* Schiner, in Becker and Stein 1913: 67

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **HA**, Marrakech; Mouna 1998; Geller-Grimm 2007; El Hawagry 2011

### ***Laphria* Meigen, 1803**

*Laphria bomboides* Macquart, 1849

= *Laphria praelusia* Séguy, in Séguy 1930a: 124

Séguy 1930a, **MA**, Soufouloud (1900–2100 m); Mouna 1998; **MA** (Meghraou-na, Tamtraekt) – MISR

### ***Pogonosoma* Rondani, 1856**

*Pogonosoma maroccanum* (Fabricius, 1794)

Loew 1860; Becker and Stein 1913, **Rif**, Tanger; Mouna 1998; Carles-Tolrá 2002; Geller-Grimm 2004; Geller-Grimm 2007; Ghahari et al. 2007; Koçak and Kemal 2010; Koçak and Kemal 2013a; Ghahari et al. 2014

### ***Stiphrolamyra* Engel, 1928**

*Stiphrolamyra rubicunda* Oldroyd, 1947

Timon-David 1951, **AP**, Sidi Moussa el Harati; Mouna 1998; Geller-Grimm 2007; El Hawagry 2011; Ghahari et al. 2014

*Stiphrolamyra vitai* Hradský & Geller-Grimm, 1997

Hradský and Geller-Grimm 1997, **HA**, Taroudant; Geller-Grimm 2007

## Laphystiinae

### ***Perasis* Hermann, 1905**

*Perasis sareptana* Hermann, 1906

Séguy 1930a, **HA**, Asni; Mouna 1998

### ***Scytomedes* Röder, 1882**

*Scytomedes haemorrhoidalis* (Fabricius, 1794)

= *Triclis haemorrhoidalis* Fabricius, in Mouna 1998: 84

Séguy 1930a, **MA**, Meknès; Mouna 1998; Geller-Grimm 2007; Hayat et al. 2008; Koçak and Kemal 2010; Ghahari et al. 2014

### ***Trichardis* Hermann, 1906**

*Trichardis leucocomus* (Van der Wulp, 1899)

= *Trichardis leucicoma* Van der Wulp, in Timon-David 1951: 132

Timon-David 1951, **AA**, Tata, piste de Fask Tahrjicht; Mouna 1998; Geller-Grimm 2007; Hayat et al. 2008; Koçak and Kemal 2010; El Hawagry 2011; Ghahari et al. 2014

## Leptogastrinae

***Leptogaster* Meigen, 1803***Leptogaster cylindrica* (De Geer, 1776)= *Leptogaster hispanica* Meigen, in Séguy 1930a: 117Séguy 1930a, **MA**, Meknès; Mouna 1998; Tomasovic 2006, **Rif**; Geller-Grimm 2007; Hayat et al. 2008; Koçak and Kemal 2010; Ghahari et al. 2014*Leptogaster pedunculata* Loew, 1847= *Gonypes pedunculatus* Loew, in Becker and Stein 1913: 72Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **HA**, Haute Réghaya; Mouna 1998*Leptogaster straminea* Becker, 1907Timon-David 1951, **MA**, Aguelmane Sidi Ali (2070 m); Mouna 1998; Geller-Grimm 2007

## Stenopogoninae

***Afroholopogon* Londt, 1994***Afroholopogon waltlii* (Meigen, 1838)= *Heteropogon waltlii* Meigen, in Séguy 1930a: 123Séguy 1930a, **MA**, Meknès; Mouna 1998; Geller-Grimm 2007; Koçak and Kemal 2010***Amphisbetetus* Hermann, 1906***Amphisbetetus sexspinus* Tomasovic, 2008Tomasovic and Weyer 2008, **AA**, Imsouane (Agadir); Geller-Grimm 2007***Ancylorrhynchus* Berthold in Latreille, 1827***Ancylorrhynchus gummigutta* (Becker, 1906)Séguy 1930a, **Rif**, Tanger; Mouna 1998; Geller-Grimm 2007; Koçak and Kemal 2010*Ancylorrhynchus limbatus* (Fabricius, 1794)Séguy 1930a, **MA**, Meknès, Timhadit (2000 m); Mouna 1998; Geller-Grimm 2007; Koçak and Kemal 2010*Ancylorrhynchus vultur* Séguy, 1930Séguy 1930a, **MA**, Timhadit (2000 m); Mouna 1998; Geller-Grimm 2007; Koçak and Kemal 2010***Eriopogon* Loew, 1847***Eriopogon jubatus* Becker, 1906Timon-David 1951, **Rif**, Tanger, **AP**, Rabat; Hradský and Hüttinger 1995, **AP**, Rabat; Mouna 1998; Geller-Grimm 2007; **AP** (Forêt Temara) – MISR*Eriopogon laniger* Meigen, 1804= *Holopogon flavescens* Jaennicke, in Séguy 1930a: 123Séguy 1930a, **HA**, Aguer gour; Mouna 1998; Geller-Grimm 2007; Hayat et al. 2008; Koçak and Kemal 2010; Ghahari et al. 2014

*Eriopogon spatenkai* Hradský & Hüttinger, 1995

Geller-Grimm 2007; Hradský and Hüttinger 1995, **MA**, Mishliffen

***Galactopogon* Engel, 1929**

*Galactopogon hispidus* Engel, 1929

Ebejer et al. 2019, **AA**, 23 km S of Rich (Errachidia, 2012 m)

***Habropogon* Loew, 1847**

*Habropogon aerivagus* (Séguy, 1953)

Séguy 1953a, **SA**, Aouletis

*Habropogon appendiculatus* Schiner, 1867

Timon-David 1951, **AA**, Aïn Chaïb; Mouna 1998; Weinberg and Blasco-Zumeta 2004; Hradský and Geller-Grimm 2005; Geller-Grimm 2007; Koçak and Kemal 2010; El Hawagry 2011

*Habropogon bacescui* Weinberg & Tsacas, 1973

Geller-Grimm 2007; Koçak and Kemal 2010

*Habropogon distipilosus* Weinberg & Tsacas, 1973

Geller-Grimm 2007

*Habropogon hauseri* Hradský & Geller-Grimm, 2005

Hradský and Geller-Grimm 2005, **HA**, Tizi-n'Test; Geller-Grimm 2007; Koçak and Kemal 2010

*Habropogon odontophallus* Weinberg & Tsacas, 1973

Geller-Grimm 2007

*Habropogon parappendiculatus* Weinberg & Tsacas, 1973

Hradský and Geller-Grimm 2005, **HA**, Aït Saoun; Geller-Grimm 2007; Kirk-Spriggs and McGregor 2009, **HA**; Koçak and Kemal 2010

*Habropogon prionophallus* Weinberg & Tsacas, 1973

Geller-Grimm 2007

*Habropogon pyrrhophaeus* Weinberg & Tsacas, 1973

Geller-Grimm 2007

*Habropogon rubriventris* Macquart, 1849

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **AP**, Aïn el Hadjar (near Mogador), **MA**, Meknès, Tlet n'Rhoir, **EM**, Berkane (1350–1400 m); Mouna 1998

*Habropogon senilis* Wulp, 1899

Geller-Grimm 2007

*Habropogon spissipes* Hermann, 1909

Geller-Grimm 2007; Koçak and Kemal 2010; El Hawagry 2011; Ghahari et al. 2014

*Habropogon striatus* (Fabricius, 1794)

= *Habropogon heteroneurus* Timon-David, in Timon-David: 135

Séguy 1941d, **AA**, Agadir; Mouna 1998; Geller-Grimm 2007; El Hawagry 2011, **AP**, Rabat

***Heteropogon* Loew, 1847**

*Heteropogon biplex* Becker, in Becker & Stein 1913: 65

Becker and Stein 1913, **Rif**, Tanger; Geller-Grimm 2007

*Heteropogon manicatus* (Meigen, 1820)

Séguy 1930a, **MA**, Azrou, Meknès, Aïn Leuh, **HA**, Asni; Mouna 1998; Geller-Grimm 2007; Koçak and Kemal 2010; **MA** (Ifrane) – MISR

*Heteropogon nubilus* (Meigen, 1820)

= *Isopogon brevis* Schiner, in Becker and Stein 1913: 64

= *Sisyrnodytes brevis* Macquart, in Timon-David 1951: 134, Séguy 1953a: 79  
Becker and Stein 1913, **Rif**, Tanger; Séguy 1953a, **AA**, Imiter; Mouna 1998; Geller-Grimm 2007; Koçak and Kemal 2010; Shoeibi and Karimpour 2010; Ghahari et al. 2014

***Holopogon* Loew, 1847***Holopogon dimidiatus* (Meigen, 1820)

Séguy 1941d, **AA**, Agadir

*Holopogon dusmeti* Strobl in Czerny & Strobl 1909

= *Eriopogon dusmeti* Strobl, in Timon-David 1951: 132

Timon-David 1951, **EM**, Guenfouda, **HA**, Tifni; Mouna 1998; Geller-Grimm 2007; **HA** (Tifni Demnat) – MISR

*Holopogon melaleucus* (Meigen, 1820)

Séguy 1930a, **AP**, Forêt Maâmora, Dar Salem (Rabat); Séguy 1941d, **AA**, Agadir; Mouna 1998; Geller-Grimm 2007

*Holopogon pusillus* (Macquart, 1838)

= *Habropogon pusillus* (Macquart), in Séguy 1949a: 154

Séguy 1949a, **SA**, Goulimine; Mouna 1998

*Holopogon quadrinotatus* Séguy, 1953

Séguy 1953a, **SA**, Amguilli Sguelma

***Acnephalum* Macquart, 1838**

= *Pycnopogon* Loew, 1847 in Londt 2010

*Acnephalum apiformis* (Macquart in Lucas, 1849)

Séguy 1930a, **MA**, Timhadit (2000 m), Meskedall (1800–1900 m); Timon-David 1951, **MA**, Ifrane (1650 m); Mouna 1998; Geller-Grimm 2007

*Acnephalum denudatus* (Séguy, 1949)

= *Stenopogon denudatus* Loew, in Séguy 1930a: 123, Séguy 1934b: 162

Séguy 1930a, **MA**, Tizi-n'Tkrine; Séguy 1934b, **HA**, Haute Réghaya; Séguy 1949b, **AP**, Bou Tazzert near Mogador; Séguy 1953a, **AA**, Oasis du Ferkla; Mouna 1998; Geller-Grimm 2007

*Acnephalum fasciculatus* (Loew, 1847)

Séguy 1930a, **MA**, Azrou, Timelilt, Sidi Bettache, **HA**, Asni, bords Imminen (Tachdirt), Likount (2500–2800 m), Lac Ifni (Skoutana), **SA**, Béni Mgild; Timon-David 1951, **AP**, Oued Korifla, **MA**, Lac Aguelmane Sidi Ali (2070 m), Oued N'Zala; Mouna 1998; Geller-Grimm 2007; Lehr et al. 2007; Koçak and Kemal 2010; Ghahari et al. 2014; **MA** (Ras el Ma) – MISR

***Stenopogon* Loew, 1847***Stenopogon costatus* Loew, 1871

= *Stenopogon costarus* Loew, in Mouna 1998: 84

Séguy 1930a, **MA**, Tizi-n'Tkrine (Jebel Ahmar, 1700 m); Mouna 1998

*Stenopogon gracilis* (Macquart, 1838)

= *Stenopogon fumipennis* Becker, in Becker and Stein 1913: 68  
Becker and Stein 1913, **Rif**, Tanger; Geller-Grimm 2007

*Stenopogon heteroneurus* (Macquart, 1838)

Timon-David 1951, **AP**, Forêt Maâmora, Oued Akreuch, **HA**, Mouldikht; Mouna 1998; Hayat et al. 2008; Geller-Grimm 2007; Koçak and Kemal 2010; El Hawagry 2011; Ghahari et al. 2014

*Stenopogon iphippus* Séguy, 1932

Séguy 1932b, **MA**, Volubilis; Mouna 1998; Geller-Grimm 2007

*Stenopogon iphis* Séguy, 1932

Séguy 1932b, **MA**, Azrou; Timon-David 1951, **Rif**, Plateau de Tisserouine (2000 m), **MA**, Ifrane (1650 m), Ito (Rabat); Geller-Grimm 2007

*Stenopogon ischyryus* Séguy, 1932

Séguy 1932b, **MA**, Tizi-s'Tkrine (Jebel Ahmar, 1700 m); Mouna 1998; Geller-Grimm 2007

*Stenopogon junceus* (Wiedemann in Meigen, 1820)

Timon-David 1951, **AP**, Oued Akreuch, Zaër, **MA**, Sefrou; Mouna 1998; Geller-Grimm 2007; Hayat et al. 2008; Koçak and Kemal 2010; Ghahari et al. 2014

*Stenopogon kocheri* Timon-David, 1951

Timon-David 1951, **HA**, Tifni; Mouna 1998; Geller-Grimm 2007

*Stenopogon porcus* Loew, 1871

Séguy 1949a, **AA**, Akka; Mouna 1998; Geller-Grimm 2007

*Stenopogon wernerii* Engel, 1933

Geller-Grimm 2007; Koçak and Kemal 2010, **MA**, Fès, Zalagh

***Sisyrnodytes* Loew, 1856**

*Sisyrnodytes leucophaetus* Séguy, 1930

Séguy 1930a, **MA**, Béni Berberi; Mouna 1998; Geller-Grimm 2007; Londt 2009

*Sisyrnodytes nilicola* (Rondani, 1850)

Oldroyd 1980; Londt 1987; Geller-Grimm 2007; Londt 2009, **AA**, Ifni, Tiznit, Tata, Tazegzout; El Hawagry 2011; Samin et al. 2011; Ghahari et al. 2014

Stichopogoninae

***Stichopogon* Loew, 1847**

*Stichopogon albellus* Loew, 1856

Séguy 1949a, **AA**, Foum-el-Hassan; Mouna 1998

*Stichopogon albofasciatus* (Meigen, 1820)

Séguy 1930a, **HA**, Kasba Taguendaft (Goundafa); Mouna 1998; Geller-Grimm 2007

*Stichopogon elegantulus* (Wiedemann, 1820)

Séguy 1930a, **HA**, Kasba Taguendaft (Goundafa), Aguerd el Had, **AA**, Talek-jount (Souss); Mouna 1998; Geller-Grimm 2007; Ghahari et al. 2007; Koçak and Kemal 2010; El Hawagry 2011; Ghahari et al. 2014; **AP** (Kénitra) – MISR

*Stichopogon inaequalis* Loew, 1847

Séguy 1930a, **HA**, Aguerd el Had, **AA**, Talekjount (Souss); Mouna 1998; Geller-Grimm 2007

*Stichopogon maroccanus* (Becker, 1914)

Becker and Stein 1913, **Rif**, Tanger; Geller-Grimm 2007; El Hawagry 2011, **Rif**, Tanger

*Stichopogon punctiferus* Bigot, 1878

Geller-Grimm 2007

*Stichopogon pusio* (Macquart in Lucas, 1849)

Séguy 1930a, **HA**, Kasba Taguendaft (Goundafa); Mouna 1998; Geller-Grimm 2007; El Hawagry 2011

*Stichopogon schineri* Koch, 1872

Timon-David 1951, **AA**, Backkoum (Jebel Siroua); Mouna 1998; Hayat et al. 2008; Geller-Grimm 2007; Koçak and Kemal 2010; Ghahari et al. 2014

**BOMBYLIIDAE**

K. Kettani, M.J. Ebejer, J. Dils

Number of species: **248**. Expected: 270

Faunistic knowledge of the family in Morocco: good

## Usiinae

***Apolysis* Loew, 1860***Apolysis eremophila* Loew, 1873

= *Usia tomentosa* Engel, in Paramonow 1947: 209

= *Parageron ornata* Engel, in Zaitzev 2007: 160

Paramonow 1947; Mouna 1998; Zaitzev 2007, **AP** (south), Tamri; Koçak and Kemal 2010; El Hawagri 2011; Evenhuis and Greathead 2015

***Parageron* Paramonov, 1929***Parageron gratus* (Loew, 1856)

= *Usia grata* Loew, in Timon-David 1951: 143

Timon-David 1951, **AP**, Oued Grou; Mouna 1998; Bader and Arabyat 2004; Zaitzev 2007, **SA**; Koçak and Kemal 2010; El Hawagri 2011; Evenhuis and Greathead 2015 – MISR

*Parageron griseus* Paramonov, 1947

Zaitzev 2007, **SA**

*Parageron hyalipennis* (Séguy, 1941)

= *Oligodranes hyalipennis* Séguy, in Séguy 1941d: 9

Séguy 1941d, **AA**, Agadir (Forêt Admine); Mouna 1998; Koçak and Kemal 2010; Evenhuis and Greathead 2015, **HA**



*Parageron incisus* (Wiedemann, 1830)

= *Usia incisa* Wiedemann, in Timon-David 1951: 143

Séguy 1930a, **AP**, Mogador, Casablanca, Sidi Bettache, Aïn Sferguila, **MA**, Forêt Zaers, Ras el Ma, Aïn Leuh, **HA**, Tenfecht; Timon-David 1951, **AP**, Rabat, Sehoul, **MA**, Ifrane; Mouna 1998; Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Parageron major* Macquart, 1840

Mouna 1998; Pârvu and Zaharia 2007; Zaitzev 2007, **AP**, Rabat, Nkheila; Evenhuis and Greathead 2015

### ***Usia* Latreille, 1802**

*Usia (Micrusia) aurata* (Fabricius, 1794)

= *Usia (Micrusia) taeniolata* Costa, 1883, in, Koçak and Kemal 2010

Séguy 1930a, **Rif**, Tanger, **AP**, Rabat, Sidi Bettache; Paramonov 1950, **Rif**, Tanger; Mouna 1998; Koçak and Kemal 2010; El Hawagry 2011; Evenhuis and Greathead 2015

*Usia (Micrusia) crispa* Gibbs, 2011

Gibbs 2011, **HA**, Marrakech, **AA**, Agadir, Taroudant, Tafraoute, Ouarzazate

*Usia (Micrusia) cryptocrispa* Gibbs, 2011

Gibbs 2011, **AP**, Ben Slimane, Rabat

*Usia (Micrusia) dilsii* Gibbs, 2011

Gibbs 2011, **Rif**, Tétouan, Al Hoceima, **HA**, Taourirt

*Usia (Micrusia) echinus* Gibbs, 2011

Gibbs 2011, **AP**, Agadir, Guelmim, Sidi Ifni, Cap Ghir, **MA**, Tafraoute, **HA**, Marrakech, Tizi-n-Test, **AA**, Tafingoult

*Usia (Micrusia) falcata* Gibbs, 2011

Gibbs 2011, **MA**, Azrou, Ifrane

*Usia (Micrusia) forcipata* Brullé, 1833<sup>14</sup>

Mouna 1998: 84

*Usia (Micrusia) globicauda* Gibbs, 2011

Gibbs 2011, **AP**, Essaouira

*Usia (Micrusia) loewi* Becker, 1906

Zaitzev 2007, **Rif**, Tanger, **AP**, Skhirate, Nkheila, **MA**, Taferiate, **HA**, Taourirt

*Usia (Micrusia) novakii* Strobl, 1902

Séguy 1941d, **HA**, Tizi-n'Test; Mouna 1998; Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Usia (Micrusia) parascrifa* Gibbs, 2011

Gibbs 2011, **MA**, Ifrane, Mischliffen (2200 m)

*Usia (Micrusia) pusilla* Meigen, 1820

Séguy 1930a, **AP**, Rabat, **MA**, Azrou, **HA**, Tafingoult (Goundafa, 1500–1600 m); Séguy 1934b, **AP**, Rabat (on *Calendula*); Séguy 1953a, **AP**, Cap Ghir; Mouna 1998; Koçak and Kemal 2010; Evenhuis and Greathead 2015

<sup>14</sup> The record of *Usia forcipata* is doubtful as this species is probably endemic to Greece (Gibbs 2011).

*Usia (Micrusia) versicolor* (Fabricius, 1787)

Séguy 1930a, **AP**, Berrchid, Casablanca, M'Rassine; Timon-David 1951, **AP**, Rabat, **MA**, Oulmès; Mouna 1998; Koçak and Kemal 2010; Gibbs 2011, **HA**; Evenhuis and Greathead 2015; **EM** (Oujda) – MNHNR

*Usia (Usia) aenea* (Rossi, 1794)

Séguy 1949a, **AA**, Foum-el-Hassan; Mouna 1998; Bader and Arabyat 2004; Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Usia (Usia) angustifrons* Becker, 1906

Mouna 1998

*Usia (Usia) atrata* (Fabricius, 1798)

= *Voluccella atrata* Fabricius, in Fabricius 1798: 570

= *Usia claripennis* Macquart, in Macquart 1840: 105

Meigen 1820; Séguy 1930a, **Rif**, Tanger, **MA**, Aïn Leuh; Timon-David 1951, **AP**, Rabat, Guerrouaou; Mouna 1998; Zaitzev 2007, **HA**, Tizi-n'Tichka; Koçak and Kemal 2010; Gibbs 2014, **AP**, Mogador, Arbaa-Sahel (320 m), Tamri (215 m), **MA**, Khemisset, Oulmès (700 m), Ifrane, El Merabtine, **HA**, Marrakech, Aït Ourirr (530 m), Oukaimeden (2200 m), Tizi-n'Test (1450 m), Timzit (1700 m), **AA**, Agadir, Tiznit, Igherm (1660 m), Taroudant, Tata, Iguiour (1260 m), **SA**, Bou Jarif, Goulimine; Evenhuis and Greathead 2015

*Usia (Usia) bicolor* Macquart, 1855<sup>15</sup>

Mouna 1998: 84

*Usia (Usia) cornigera* Gibbs, 2014

Gibbs 2014, **Rif**, Tanger, **AP**, Sidi Bettache, Rabat, **MA**, Meknès (550 m), Aïn Leuh (1350 m), **HA**, Dar Kaid M'tougui

*Usia (Usia) florea* (Fabricius, 1794)

= *Volucella florea* Fabricius, in Becker 1906: 203

= *Usia cuprea* Macquart, 1834, in Becker 1906: 203

Becker 1906a; Séguy 1930a, **Rif**, Tanger, **AP**, Mogador, Sidi Bettache, **HA**, Tinmel (Goundafa), around (Skoutana); Timon-David 1951, **EM**, Oued Moulouya; Mouna 1998; Pârvu and Zaharia 2007; Koçak and Kemal 2010; Gibbs 2014; Evenhuis and Greathead 2015

*Usia (Usia) ignorata* Becker, 1906

Becker 1906a; Mouna 1998; Bader and Arabyat 2004; Pârvu and Zaharia 2007; Koçak and Kemal 2010; El Hawagry 2011

*Usia (Usia) maghrebensis* Gibbs, 2014

Gibbs 2014, **Rif**, Tanger, Tétouan, El Biutz (150 m), **AP**, Mogador, **MA**, Aïn Leuh (1350 m)

*Usia (Usia) vestita* Macquart, 1846

Mouna 1998: 84; Gibbs 2011

<sup>15</sup> *Usia (Usia) bicolor* is an east Mediterranean species (Gibbs 2014) and the record from Morocco is most likely a misidentification.

## Phthiriinae

***Phthiria* Meigen, 1802***Phthiria albogilva* Séguy, 1941Séguy 1941d, **AA**, Agadir; Mouna 1998; Evenhuis and Greathead 2015*Phthiria gaedii* Wiedemann in Meigen, 1820Séguy 1930a, **MA**, Foum Keneg; Timon-David 1951, **AP**, Zaers, **MA**, Ifrane; Mouna 1998; Koçak and Kemal 2010; El Hawagry 2011; Evenhuis and Greathead 2015 – MISR (**MA**, Ifrane)*Phthiria maroccana* Zaitzev, 2005= *Phthiria maroccana* Zaitzev, in Zaitzev 2005: 667Zaitzev 2005, **MA**, Taferiate, **HA**, Taourirt; Zaitzev 2007, **MA**, Taferiate, **HA**, Taourirt*Phthiria merlei* Zaitzev, 2005= *Phthiria merlei* Zaitzev, in Zaitzev 2005: 665Zaitzev 2005, **AP** (south), Tamri, Inchaden (south of Aït Melloul); Zaitzev 2007, **AP** (south), Tamri, Inchaden (south of Aït Melloul)*Phthiria minuta* (Fabricius, 1805)Séguy 1930a, **HA**, Tenfecht, **AA**, Souss; Mouna 1998; Koçak and Kemal 2010; El Hawagry 2011*Phthiria pulicaria* var. *flavofasciata* Strobl in Morge, 1976Mouna 1998; Zaitzev 2007, **AA**, Tizi-n'Tiniggigt (1600 m); Koçak and Kemal 2010; Evenhuis and Greathead 2015*Phthiria scutellaris* Wiedemann in Meigen, 1820Séguy 1930a, **MA**, Meknès; Séguy 1941a, **MA**, Meknès, **HA**, Imi-n'Ouaka (1500 m); Mouna 1998; Evenhuis and Greathead 2015; **Rif** (Sapinière Talasemtane) – MISR*Phthiria simonyi* Becker, 1908Séguy 1949a, **SA**, Guelmim; Mouna 1998; Koçak and Kemal 2010; Evenhuis and Greathead 2015, **MA**, Meknès*Phthiria umbripennis* Loew, 1846Mouna 1998; Koçak and Kemal 2010; Evenhuis and Greathead 2015, **MA**, Meknès*Phthiria vagans* Loew, 1846Zaitzev 2007, **HA**, Taourirt, **AA**, Tizi-n'Taratine

## Toxophorinae

***Geron* Meigen, 1820***Geron intonsus* Bezzi, 1925\***MA, HA***Geron macquarti* Greathead in Evenhuis & Greathead 1999

Dils and Özbek 2006; Koçak and Kemal 2010; El Hawagry 2011

*Geron subflavofemoratus* Andréu Rubio, 1959

Andréu Rubio 1959; Mouna 1998; Koçak and Kemal 2010; Evenhuis and Greathead 2015

***Toxophora* Meigen, 1803**

*Toxophora fasciculata* (Villers, 1789)

Séguy 1930a, **AP**, Rabat; Mouna 1998; Dils and Özbek 2006; Koçak and Kemal 2010; El Hawagry 2011; Evenhuis and Greathead 2015; **AP** (Rabat) – MISR

*Toxophora fuscipennis* (Macquart, 1840)

Mouna 1998: 84

*Toxophora pauli* Zaitzev, 2005

Zaitzev 2005, **AA**, Ouarzazate, Jebel Tighermine (SE of Ouarzazate); Zaitzev 2007, **AA**, Ouarzazate, Jebel Tighermine (SE of Ouarzazate)

*Toxophora shelkovnikovi* Paramonov, 1933

Zaitzev 2007, **AA**, Ouarzazate

Heterotropinae

***Heterotropus* Loew, 1873**

*Heterotropus atlanticus* Séguy, 1930

Séguy 1930a, **AP**, Mogador; Mouna 1998; Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Heterotropus longitarsus* Séguy, 1930

Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Heterotropus maroccanus* Zaitzev, 2003

Zaitzev 2003, **AA**, Jebel Tighermine (SE of Ouarzazate); Zaitzev 2007, **AA**, Jebel Tighermine (SE of Ouarzazate)

Bombyliinae

***Anastoechus* Osten-Sacken, 1877**

*Anastoechus bahirae* Becker, 1915

Mouna 1998; Zaitzev 2007, **AA**, Jebel Tighermine (SE of Ouarzazate)

*Anastoechus hyrcanus* Pallas & Wiedemann in Wiedemann, 1818

Mouna 1998: 84

*Anastoechus latifrons* (Macquart, 1839)

Timon-David 1951, **AP**, Dradek; Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Anastoechus nitidulus* ssp. *nitidulus* Fabricius, 1794

Mouna 1998: 84

*Anastoechus stramineus* Wiedemann in Meigen, 1820

Mouna 1998: 84

*Anastoechus trisignatus* (Portschinsky, 1881)

Bader and Arabyat 2004; Zaitzev 2007, **AP**, Rabat, **AA**, Jebel Tighermine (SE of Ouarzazate), **AA**, 20 km SW Goulmima, **SA**, Tan-Tan, Between Guelmim

and Tan-Tan (90 km from Guelmim), Taganint (south of Bou-Izakarn); Koçak and Kemal 2010; El Hawagry 2011; Evenhuis and Greathead 2015

***Bombomyia* Greathead, 1995**

*Bombomyia discoidea* (Fabricius, 1794)

Séguy 1930a, **AP**, Oued Korifla (Zaers), Sidi Bettache; Bader and Arabyat 2004; Dils and Özbek 2006; Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Bombomyia stictica* Boisduval, 1835

Zaitzev 2007, **MA**, col de Zeggota (N Meknès), Oulmès

*Bombomyia vertebralis* (Dufour, 1833)

= *Bombylius punctatus* Fabricius, in Timon-David 1951: 144

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a **AP**, Dradek near Rabat; Timon-David 1951, **MA**, Volubilis; Mouna 1998; Bader and Arabyat 2004; Koçak and Kemal 2010 Evenhuis and Greathead 2015; **AP** (Dradek, Casablanca), **EM** (Oujda), **MA** (Volubilis, Aïn Leuh) – MISR

***Bombylisoma* Rondani, 1856**

*Bombylisoma algirum* (Macquart, 1840)

= *Bombylius nigrifrons* Becker, in Becker and Stein 1913: 83

Becker and Stein 1913, **Rif**, Tanger; Mouna 1998; Zaitzev 2007, **Rif**, Tanger; Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Bombylisoma brevisculum* (Loew, 1855)

Dils and Özbek 2006; Zaitzev 2007; Evenhuis and Greathead 2015

*Bombylisoma flavibarbum* Loew, 1855

Mouna 1998: 84

*Bombylisoma melanocephalum* Fabricius, 1794

Zaitzev 2007, **HA**, Taourirt, south of Tizi-n'Test

***Bombylius* Linnaeus, 1758**

*Bombylius (Bombylius) albaminis* Séguy, 1949

Séguy 1949a, **HA**, Alnif; Mouna 1998; Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Bombylius (Bombylius) ambustus* Pallas & Wiedemann, 1818

Mouna 1998: 84

*Bombylius (Bombylius) analis* (Olivier, 1789)

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **AP**, Oued Korifla, Rabat, Sidi Bettache, Aïn Sferguila; Timon-David 1951, **AP**, Rabat; Mouna 1998; Zaitzev 2007, **MA**, route Fès-Sidi Kacem (30 km from Fès); Koçak and Kemal 2010; Evenhuis and Greathead 2015, **AP** (Rabat, Casablanca) – MISR

*Bombylius (Bombylius) audcenti* Bowden, 1984

Mouna 1998; Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Bombylius (Bombylius) canescens* Mikan, 1796

Becker and Stein 1913, **Rif**, Tanger; Mouna 1998; Zaitzev 2007, **Rif**, Cap Malabata (Tanger), **MA**, Tachguelt, route Fès-Sidi Kacem (30 km from Fès)

*Bombylius (Bombylius) cinerascens* Mikan, 1796

Mouna 1998; Bader and Arabyat 2004

*Bombylius (Bombylius) discolor* Mikan, 1796

Mouna 1998; Zaitzev 2007, **MA**, route El Hajeb-Ifrane (1 km from Ifrane)

*Bombylius (Bombylius) eploceus* Séguy, 1949

Séguy 1949a, **SA**, Guelmim; Mouna 1998; Evenhuis and Greathead 2015

*Bombylius (Bombylius) fimbriatus* Meigen, 1820

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **MA**, Tizi-s'Tkrine, Jebel Ahmar (1700 m); Mouna 1998; Pârvu and Zaharia 2007; Zaitzev 2007; Koçak and Kemal 2010; El Hawagry 2011; Evenhuis and Greathead 2015

*Bombylius (Bombylius) flavipes* Wiedemann, 1828

Becker and Stein 1913, **Rif**, Tanger; Mouna 1998; Zaitzev 2007; Koçak and Kemal 2010; El Hawagry 2011; Evenhuis and Greathead 2015

*Bombylius (Bombylius) fulvescens* Wiedemann in Meigen, 1820

Becker and Stein 1913, **Rif**, Tanger; Séguy 1953a, **AP**, Cap Ghir; Séguy 1941d, **AA**, Agadir; Mouna 1998

*Bombylius (Bombylius) fuscus* Fabricius, 1781

Mouna 1998: 84

*Bombylius (Bombylius) major* (Linnaeus, 1758)

Becker and Stein 1913, **Rif**, Tanger; Séguy 1953a, **MA**, Oulmès; Bader and Arabyat 2004; Zaitzev 2007; Koçak and Kemal 2010; El Hawagry 2011; Evenhuis and Greathead 2015; **AP** (Kénitra) – MISR

*Bombylius (Bombylius) mauritanus* Olivier, 1789

Koçak and Kemal 2010; Evenhuis and Greathead 2015, **HA**

*Bombylius (Bombylius) medius* (Linnaeus, 1758)

Becker and Stein 1913, **Rif**, Tanger; Timon-David 1951, **AP**, Sehoul; Mouna 1998; Bader and Arabyat 2004; Dils and Özbek 2006; Pârvu and Zaharia 2007; Zaitzev 2007; Koçak and Kemal 2010; El Hawagry 2011; Evenhuis and Greathead 2015; **AP** (Oued Yquem, Dradek) – MISR

*Bombylius* (Unplaced) *megacephalus* Portschinsky, 1887\*

**EM, AA**

*Bombylius (Bombylius) minor* Linnaeus, 1758

Mouna 1998; Zaitzev 2007, **Rif**, Tanger; **MA** (Aguelmane Azigza), **SA** – MISR

*Bombylius (Bombylius) mus* Bigot, 1862

Koçak and Kemal 2010; El Hawagry 2011; Evenhuis and Greathead 2015

*Bombylius (Bombylius) niveus* Meigen, 1804

Mouna 1998: 84; **AP** (Mogador) – MISR

*Bombylius (Bombylius) numidus* Macquart, 1846

Séguy 1953a, **MA**, Ifrane; El Hawagry 2011; Evenhuis and Greathead 2015

*Bombylius (Bombylius) pauli* Zaitzev, 2003

Zaitzev 2003, **MA**, route Fès-Sidi Kacem (30 km from Fès); Zaitzev 2007, **MA**, route Fès-Sidi Kacem (30 km from Fès)

*Bombylius (Bombylius) posticus* (Fabricius, 1805)

Dils and Özbek 2006; Zaitzev 2007; Koçak and Kemal 2010; El Hawagry 2011; Evenhuis and Greathead 2015

*Bombylius (Bombylius) postversicolor* Evenhuis & Greathead, 1999

= *Bombylius versicolor* Fabricius, 1805

Meigen 1820; Bezzi 1906; Séguy 1930a, **AP**, Mogador; Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Bombylius (Bombylius) pumilus* Meigen, 1820

Mouna 1998: 84

*Bombylius (Bombylius) semifuscus* (Meigen, 1820)

Séguy 1953a, **AP**, Cap Ghir; Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Bombylius (Bombylius) torquatus* Loew, 1855

Séguy 1930a, **HA**, Ouaounzert (Glaoua), Arround (Skoutana), Tachdirt (bord de l'Imminen, 2400–2600 m); Timon-David 1951, **AP**, Rabat; Mouna 1998; Evenhuis and Greathead 2015; **AP** (Mogador) – MISR

*Bombylius (Bombylius) undatus* Mikan, 1796

Pârvu and Zaharia 2007

*Bombylius (Bombylius) vagans* Meigen, 1830

Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Bombylius (Bombylius) venosus* Mikan, 1796

Mouna 1998; Zaitzev 2007, **AP**, El Koudia (30 km SW from Rabat); **AP** (Dradek) – MISR

*Bombylius (Zephyrectes) cruciatus* Fabricius, 1798

Séguy 1930a, **MA**, Aharmoumou (1100 m), Azrou, Ras el Ma, **HA**, Tizi-n'Test, Jebel Imdress (Goundafa, 2000–2450 m); Mouna 1998; Zaitzev 2007; Koçak and Kemal 2010; Evenhuis and Greathead 2015; **Rif** (Talassemthane), **AP** (Mogador), **MA** (Sefrou) – MISR

*Bombylius (Zephyrectes) leucopygus* (Macquart, 1846)

Becker and Stein 1913, **Rif**, Tanger; Mouna 1998; Zaitzev 2007, **AP**, Larache, **MA**, Moulay Idris (900 m); Evenhuis and Greathead 2015, **SA**, Erfoud; **MA** (Ifrane) – MISR

### **Conophorus Meigen, 1803**

*Conophorus bellus* Becker, 1906\*

**HA**

*Conophorus fuliginosus* (Wiedemann in Meigen, 1820)

= *Ploas fuliginisa* (Meigen), in Séguy 1953a: 83

Séguy 1930a, **MA**, Aharmoumou (1100 m); Séguy 1953a, **MA**, Aharmoumou (1100 m); Timon-David 1951, **AP**, Dradek, **MA**, Sefrou, **HA**, Marrakech; Mouna 1998; Zaitzev 2007, **Rif**, Tanger; Evenhuis and Greathead 2015; **AP** (Salé, Mogador) – MISR

*Conophorus fuscipennis* (Macquart, 1840)

Séguy 1930a, **HA**, Tizi-n'Test, Jebel Imdress (2000–2450 m), Goundafa; Mouna 1998; Evenhuis and Greathead 2015

*Conophorus griseus* (Fabricius, 1787)

Mouna 1998; Zaitzev 2007; Evenhuis and Greathead 2015



*Conophorus hamilkar* Paramonov, 1929

Timon-David 1951, **AP**, Mogador; Mouna 1998; Evenhuis and Greathead 2015; **AP** (Mogador) – MISR

*Conophorus macroglossus* (Dufour, 1852)

Mouna 1998; Zaitzev 2007; Evenhuis and Greathead 201; **AP** (Mogador) – MISR

*Conophorus mauritanicus* Bigot, 1892

= *Conophorus heteropilosus* Timon-David, in Timon-David 1951: 141; Mouna 1998: 84; Evenhuis and Greathead 2015: 192

Timon-David 1951, **MA**, Oulmès; Mouna 1998; Zaitzev 2007, **AP**, El Koudia (30 km SW from Rabat), Forêt Zaer (35 km SW from Rabat), N Tretten; Koçak and Kemal 2010; Dils 2013, **MA**, Mrirt; Evenhuis and Greathead 2015

*Conophorus rossicus* Paramonow, 1929

Dils and Özbek 2006

***Dischistus* Loew, 1855***Dischistus albatu*s (Séguy, 1934)

= *Acanthogeron albatu*s Séguy, 1934, in Séguy 1934d: 73; Zaitzev 2007: 162  
Séguy 1934d; Zaitzev 2007, **SA**, 30 km S Tata

*Dischistus auripilus* (Séguy, 1930)

= *Acanthogeron auripilus* Séguy, 1930, in Séguy 1930a: 104  
Séguy 1930a, **AP**, Mogador; Séguy 1934b, **AP**, Zaers; Timon-David 1951, **AP**, Oued Korifla; Mouna 1998; Evenhuis and Greathead 2015

*Dischistus maroccanus* (Séguy, 1930)

= *Acanthogeron maroccanus* Séguy, 1930, in Séguy 1930a: 106  
Séguy 1930a, **AP**, Mogador; Mouna 1998; Zaitzev 2007, **HA**, Tazzarine; Evenhuis and Greathead 2015

*Dischistus mittrei* (Séguy, 1930)

= *Acanthogeron mittrei* Séguy, in Séguy 1930a: 105  
Séguy 1930a, **AP**, Mogador; Mouna 1998; Evenhuis and Greathead 2015

*Dischistus perniveus* (Bezzi, 1925)

= *Acanthogeron perniveus* Bezzi, in Timon-David 1951: 143  
Timon-David 1951, **AP**, Djamda de M'Tal; Mouna 1998; El Hawagry 2011; Evenhuis and Greathead 2015

*Dischistus senex* (Wiedemann in Meigen, 1820)

= *Acanthogeron senex* Meigen, 1820, in Séguy 1953a: 83, Mouna 1998: 84, Zaitzev 2007: 162  
Séguy 1930a, **HA**, Tafingoult (Goundafa, 1500–1600 m); Villeneuve 1933; Séguy 1953a, **HA**, Aït Ourir; Mouna 1998; Zaitzev 2003, **HA**, Taourirt; Zaitzev 2007, **HA**, Taourirt; El Hawagry 2011; Evenhuis and Greathead 2015; **AP** (Dradek), **MA** (Sefrou) – MISR

*Dischistus separatus* (Becker, 1906)

= *Acanthogeron talboti* Séguy, 1930, in Séguy 1930a: 106  
Evenhuis and Greathead 2015

***Efflatounia* Bezzi, 1925***Efflatounia berbera* Bowden, 1973Ebejer et al. 2019, **AA**, Agadir – NMWC***Legnotomyia* Bezzi, 1902***Legnotomyia fascipennis* Bezzi, 1925\***SA*****Merleus* Zaitzev, 2003***Merleus punctipennis* Zaitzev, 2003= *Merleus punctipennis* Zaitzev 2003: 599Zaitzev 2003, **AP**, Skhirate; Zaitzev 2007, **AP**, Skhirate***Prorachthes* Loew, 1869***Prorachthes crassipalpis* Villeneuve, 1930

Evenhuis and Greathead 2015

***Systoechus* Loew, 1855***Systoechus ctenopterus* (Mikan, 1796)Timon-David 1951, **MA**, Ifrane; Mouna 1998; Dils and Özbek 2006; Zaitzev 2007; El Hawagry 2011; Evenhuis and Greathead 2015*Systoechus gomezmenori* Andréu Rubio, 1959

Carles-Tolrá 2002; Evenhuis and Greathead 2015

*Systoechus gradatus* (Wiedemann in Meigen, 1820)Timon-David 1951, **AP**, Mouldikht; Mouna 1998; Zaitzev 2007, **MA**, Tafriat, **HA**, Taourirt; El Hawagry 2011; Evenhuis and Greathead 2015*Systoechus mixtus* Wiedemann, 1821= *Bombylius stylicornis* Macquart in Séguy 1941: 10Séguy 1941d, **AA**, Agadir; Mouna 1998*Systoechus pumilio* Becker, 1915

Mouna 1998: 84

***Triplasius* Loew, 1855***Triplasius boghariensis* (Lucas, 1852)Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **EM**, Oujda; Mouna 1998; Pârvu and Zaharia 2007; Evenhuis and Greathead 2015*Triplasius maculipennis* (Macquart, 1846)= *Bombylius maculipennis* var. *melanopus* Timon-David, in Timon-David 1951: 144= *Bombylius (Triplasius) maculipennis* Macquart, 1849, in Zaitzev 2007: 166Timon-David 1951, **MA**, Azrou; Zaitzev 2007, **MA**, route El Hachef, Criosement route Raubei Idris-Merhassine; Evenhuis and Greathead 2015**Ecliminae*****Eclimus* Loew, 1844***Eclimus gracilis* Loew, 1844Séguy 1930a, **MA**, Ras el Ma; Timon-David 1951, **AP**, Oued Korifla; Mouna 1998; Bader and Arabyat 2004; Dils and Özbek 2006; Zaitzev 2007, **MA**, Maaziz; Evenhuis and Greathead 2015

***Thevenetimyia* Bigot, 1875***Thevenetimyia quedenfeldti* (Engel, 1885)\***Rif, AP, MA**

## Crocidiinae

***Crocidium* Loew, 1860***Crocidium aegyptiacum* Bezzi, 1925\***SA***Crocidium nudum* Efflatoun, 1945\***EM, AA*****Semiramis* Becker in Becker and Stein 1914***Semiramis punctipennis* Becker, 1914Zaitzev 2007, **AA**, Aoulouz

## Cythereinae

***Amictus* Wiedemann, 1817***Amictus castaneus* (Macquart, 1840)Séguy 1930a, **AP**, Rabat, **HA**, Ank el Djemal; Mouna 1998; Evenhuis and Greathead 2015*Amictus compressus* (Fabricius, 1805)

Evenhuis and Greathead 2015

*Amictus heteropterus* Macquart, 1838Zaitzev 2007, **Rif**, Tanger, **AP**, Rabat, **HA**, S Tizi-n'Test, **AA**, Tizi-n'Taratine*Amictus oblongus* (Fabricius, 1805)= *Bombylius oblongus* Fabricius, in Macquart 1834: 390

Macquart 1834

*Amictus pulchellus* Macquart, 1846Séguy 1930a, **AP**, Rabat, Maâmora; Mouna 1998; Zaitzev 2007, **HA**, Taourirt; El Hawagry 2011; Evenhuis and Greathead 2015; **AP** (Rabat) – MISR*Amictus setosus* Loew, 1869\***AP***Amictus tener* Becker, 1906Zaitzev 2007, **AP**, Rabat*Amictus validus* Loew, 1869

Bader and Arabyat 2004; Dils and Özbek 2006; Karimpour 2012; Evenhuis and Greathead 2015

*Amictus variegatus* Meigen in Walz, 1835

Mouna 1998: 84

***Chalcochiton* Loew, 1844***Chalcochiton argentifrons* (Macquart in Lucas, 1849)Séguy 1953a, **AP**, Cap Ghir, Salé, Sidi Battache, **MA**, Tizi-n'Bou Zabal (2300 m), **AA**, Aïn Chaïb (Souss); Evenhuis and Greathead 2015

*Chalcochiton argyrocephalus* (Macquart, 1840)

= *Chalcochiton (Anthrax) argyrocephala* (Macquart), in Engel 1938: 328

Engel 1938; Séguy 1953a, **AA**, Agadir; El Hawagry 2011; Evenhuis and Greathead 2015

*Chalcochiton atlantica* Dils, 2008

Dils 2008, **SA**, Guelmim

*Chalcochiton holosericeus* (Fabricius, 1794)

= *Chalcochiton semiargentea* Macquart, in Zaitsev 2007: 172

Séguy 1930a, **AP**, Maâmora, Sidi Bettache, **HA**, Tizi-n'Test, Jebal Imdress (2000–2450 m), Tafingoult (Goundafa, 1500–1600 m); Séguy 1941d; Mouna 1998; Zaitsev 2007, **Rif**, Tanger, **AP**, Skhirate, **EM**, Taourirt, **MA**, Taferiat, Meknès-Moulay Idriss, Merhassine, **AA**, Agadir, Ouarzazate; Evenhuis and Greathead 2015; **AP** (Salé, Forêt Temara, Oued Yquem, Meshra) – MISR

*Chalcochiton maghrebi* Dils, 2017

Dils 2017, **Rif**, Souk El Kolla, Bab Taza, 10 km S of Mjara, **AP**, Sidi Bettache, Tamsia, Imsouane, Mansouria, Rommani, Béni Slimane, Tioulit, **EM**, El Aoun, **MA**, Béni Mellal, el Ksiba, 10 km SE Bir Tamtam, Merchouch, Mrirt, Fès, **HA**, Azilal, Asni, Tizi-Mlil, **AA**, Taroudant, Tizi-n'Test, Tiznit, Agouim, Sidi Ifni, Mesti, Tafinegoult, Tizi-n'Tiniffit, El Mrabtine, **SA**, Semara

*Chalcochiton maroccanus* Zaitsev, 2006

Séguy 1953a, **HA**, Tafingoult (Goundafa, 1500–1600 m); Zaitsev 2006, **AP** (south), Aït Melloul; Zaitsev 2007, **AP** (south), Aït Melloul

*Chalcochiton merlei* Zaitsev, 2006

Zaitsev 2006, **AP**, Skhirate; Zaitsev 2007, **AP**, Skhirate

*Chalcochiton pallasii* Loew, 1856

Bader and Arabyat 2004; Dils and Özbek 2006; Zaitsev 2007; Karimpour 2012; Evenhuis and Greathead 2015

**Callostoma Macquart, 1840**

*Callostoma fascipenne* Macquart, 1840

Bader and Arabyat 2004

**Cyllenina Latreille, 1802**

*Cyllenina rustica* Rossi, 1790

Mouna 1998; Zaitsev 2007; **AP** (Mogador) – MISR

**Cytherea Fabricius, 1794**

*Cytherea albolineata* Bezzi, 1925\*

**SA**

*Cytherea alexandrina* Becker, 1902

Becker 1902: 30; Zaitsev 2007, **AA**, Jebel Tighermine (SE of Ouarzazate)

*Cytherea aurea* (Fabricius, 1794)

Séguy 1930a, **AP**, Rabat, **HA**; Mouna 1998; Bader and Arabyat 2004; Zaitsev 2007, **AA**, Tizi-n'Taratine; El Hawagry 2011; Evenhuis and Greathead 2015, **HA**, Tafingoult (Goundafa, 1500–1600 m); **AP** (Rabat, Oued Cherrat) – MISR

*Cytherea cinerea* Fabricius, 1805

= *Mulio delicatus* Becker, 1906

Becker 1906b: 153; Timon-David 1951, **AP**, Meshra; Mouna 1998; Bader and Arabyat 2004; El Hawagry 2011; Evenhuis and Greathead 2015

*Cytherea delicata* Becker, 1906

Zaitzev 2007, **HA**, S Tizi-n'Test, **AA**, Zagora, Taroudant, Tizi-n'Taratine

*Cytherea dispar* (Loew, 1873)

Bader and Arabyat 2004; Dils and Özbek 2006; Evenhuis and Greathead 2015

*Cytherea fenestrata* (Loew, 1873)

Bader and Arabyat 2004; Evenhuis and Greathead 2015

*Cytherea infuscata* (Meigen, 1820)

Séguy 1930a, **EM**, Itzr (Haute Moulouya), **MA**, Forêt Timelilt (1900 m), **HA**, Aït el Hadj, Marrakech; Mouna 1998; Evenhuis and Greathead 2015; **AP** (Meskara) – MISR

*Cytherea maroccana* (Becker, 1903)

= *Mulio maroccanus* Becker, in Becker 1903: 89

Becker 1903, **Rif**, Tanger; Bezzi 1906: 249; Timon-David 1951, **AP**, Azem-mour; Mouna 1998; El Hawagry 2011; Evenhuis and Greathead 2015

*Cytherea obscura* Fabricius, 1794

Séguy 1930a, **EM**, Haute Moulouya, **AP**, Sidi Bettache, **HA**, Ouaouenzert; Séguy 1941d; Mouna 1998; Dils and Özbek 2006; Zaitzev 2007, **MA**, Taferiat, **AA**, Agadir, Amredi, Jebel Tighermine (SE of Ouarzazate), Tizi-n'Tiniggigt, Tizi-n'Taratine, Tizi-n'Bachkoun; Karimpour 2012; Evenhuis and Greathead 2015

*Cytherea rungsi* Timon-David, 1951

Timon-David 1951, **EM**, Guenfouda; Mouna 1998; Evenhuis and Greathead 2015

*Cytherea thyridophora* (Bezzi, 1925)

Ebejer et al. 2019, **Rif**, Moulay Abdelsalam (Jebel Bouhachem, 965 m)

*Cytherea trifaria* (Becker, 1906)

Evenhuis and Greathead 2015

## Lomatiinae

### ***Lomatia* Meigen, 1820**

*Lomatia abbreviata* Villeneuve, 1911

Séguy 1930a, **MA**, Forêt Zaers; Timon-David 1951, **EM**, Guercif; Mouna 1998; Bader and Arabyat 2004; Evenhuis and Greathead 2015; **AP** (Maâmora, Oued Cherrat, Dradek), **HA** – MISR

*Lomatia belzebul paramonovi* Fabricius, 1794

Séguy 1930a, **AP**, Dar Salem, **MA**, Timhadit, Meknès, Aïn Leuh; Mouna 1998; Dils and Özbek 2006; Zaitzev 2008; Karimpour 2012; Evenhuis and Greathead 2015

*Lomatia erynnis* (Loew, 1869)

Mouna 1998; Dils and Özbek 2006; Zaitzev 2008, **AP**, Rabat; Evenhuis and Greathead 2015

*Lomatia hamifera* Becker, 1915

Mouna 1998: 84

*Lomatia lachesis* Egger, 1859

Dils and Özbek 2006; Evenhuis and Greathead 2015

*Lomatia lateralis* (Meigen, 1820)

Séguy 1930a, **MA**, Ras el Ma, **HA**, Forêt Timelilt; Mouna 1998; Evenhuis and Greathead 2015; **AP** (Rabat), **MA** (Volubilis, Ras el Ma) – MISR

*Lomatia obscuripennis* Loew, 1869

Zaitzev 2008, **AP**, Nkheila; Evenhuis and Greathead 2015

*Lomatia sabaea* (Fabricius, 1781)

Mouna 1998: 84

*Lomatia tysiphone* Loew, 1860

Zaitzev 2008, **MA**, Azrou, **AA**, Tizi-n'Taratine

## Antoniinae

### ***Antonia* Loew, 1856**

*Antonia bouillonae* Séguy, 1932

Evenhuis and Greathead 2015

## Anthracinae

### Aphoebantini

### ***Aphoebantus* Loew, 1872**

*Aphoebantus wadensis* Becker, 1925\*

**SA**

## Anthracini

### ***Anthrax* Scopoli, 1763**

*Anthrax aethiops* (Fabricius, 1781)

Mouna 1998; Bader and Arabyat 2004; Dils and Özbek 2006; Evenhuis and Greathead 2015; **AP** (Forêt Maâmora) – MISR

*Anthrax anthrax* (Schrank, 1781)

= *Argyramoeba anthrax* Schrank, in Séguy 1930a: 93

Séguy 1930a, **MA**, Aïn Leuh, Soufouloud (1900–2100 m), **HA**, Tizi-n'Test, Jebel Imdress (2000–2450 m), Goundafa; Timon-David 1951, **MA**, El Ksiba, Ifrane; Mouna 1998; Dils and Özbek 2006; Evenhuis and Greathead 2015

*Anthrax binotatus* (Wiedemann in Meigen, 1820)

= *Argyramoeba binotata* Meigen, in Séguy 1926: 209, Séguy 1930a: 94

- Séguy 1926; Séguy 1930a, **AP**, Rabat, **HA**, Tizi-n'Test, Jebel Imdress (2000–2450 m); Séguy 1949a, **HA**, Alnif; Mouna 1998; Dils and Özbek 2006; Koçak and Kemal 2010; El Hawagry 2011; Evenhuis and Greathead 2015; **AP** (Rabat) – MISR  
*Anthrax dentatus* (Becker, 1906)  
 Bader and Arabyat 2004; Zaitzev 2008, **AA**, Tizi-n'Tiniggigt; El Hawagry 2011; Evenhuis and Greathead 2015  
*Anthrax hemimelas* Speiser, 1910  
 Zaitzev 2008, **AA**, Ouarzazate, Jebel Tighermine (SE of Ouarzazate)  
*Anthrax kiritshenkoi* Paramonov, 1935  
 Evenhuis and Greathead 2015  
*Anthrax lucidus* (Becker, 1902)  
 Ebejer et al. 2019, **AA**, Ziz river (13 km N of Erfoud, 800 m)  
*Anthrax morio* Fabricius, 1775  
 Mouna 1998; **MA** (Ifrane, Azrou) – MISR  
*Anthrax trifasciatus* (Meigen, 1804)  
 = *Argyramoeba trifasciata* Meigen, in Timon-David 1951: 139  
 Séguy 1930a, **MA**, Meknès; Timon-David 1951, **AP**, south of Rabat; Mouna 1998; Dils and Özbek 2006; Koçak and Kemal 2010; El Hawagry 2011; Evenhuis and Greathead 2015  
*Anthrax varius* Fabricius, 1794  
 Séguy 1930a, **AP**, Rabat; Mouna 1998; Evenhuis and Greathead 2015 – MISR  
*Anthrax virgo* Egger, 1859  
 = *Argyramoeba virgo* Egger, in Séguy 1930a: 94  
 Séguy 1930a, **AP**, Rabat; Zaitzev 2008, **MA**, Taferiat, **AA**, Jebel Tighermine (SE of Ouarzazate)  
**Cononedys Hermann, 1907**  
*Cononedys efflatouni* (Bezzi, 1925)\*  
**SA**  
*Cononedys escheri* Bezzi, 1908  
 Zaitzev 2008, **AP**, Skhirate, Rabat  
*Cononedys lyneborgi* (François, 1969)  
 Evenhuis and Greathead 2015  
*Cononedys scutellatus* Meigen, 1835  
 Zaitzev 2008, **Rif**, Jebala, Haouta el Kazdir, **AA**, Aouzlida near Aoulouz  
**Satyramoeba Sack, 1909**  
*Satyramoeba hetrusca* (Fabricius, 1794)  
 Mouna 1998: 84  
**Spogostylum Macquart, 1840**  
*Spogostylum isis* (Meigen, 1820)  
 Mouna 1998; Bader and Arabyat 2004; Dils and Özbek 2006; El Hawagry 2011; Karimpour 2012; Evenhuis and Greathead 2015  
*Spogostylum trinotatum* Dufour, 1852  
 Mouna 1998: 84



*Spogostylum tripunctatum* (Pallas in Wiedemann, 1818)

Timon-David 1951, **HA**, Aït Mhamed Sgatt; Mouna 1998; Dils and Özbek 2006; Zaitzev 2008, **AA**, Jebel Tighermine (SE of Ouarzazate); El Hawagry 2011; Karimpour 2012; Evenhuis and Greathead 2015; **HA** (Aïn Mhamed Sgatt) – MISR

***Turkmeniella* Paramonov, 1940**

*Turkmeniella croisi* (Villeneuve, 1910)

Evenhuis and Greathead 2015

***Exoprosopa* Macquart, 1840**

*Exoprosopa aeacus* Meigen, 1804

Mouna 1998: 84

*Exoprosopa baccha* Loew, 1869

Mouna 1998; Zaitzev 1999; Dils and Özbek 2006; Zaitzev 2008; Evenhuis and Greathead 2015

*Exoprosopa capucina* (Fabricius, 1871)

Mouna 1998: 84

*Exoprosopa circeoides* Paramonov, 1928

Zaitzev 2008, **AA**, Jebel Tighermine (SE of Ouarzazate)

*Exoprosopa cleomene* Egger, 1859

Mouna 1998: 84

*Exoprosopa decrepita* (Wiedemann, 1828)

Zaitzev 2008, **AA**, Zagora

*Exoprosopa efflatouni* Bezzi, 1925

Zaitzev 2008, **AA**, Jebel Tighermine (SE of Ouarzazate), Ouarzazate, **SA**, Taganint (south of Bou-Izakarn)

*Exoprosopa grandis* Wiedemann in Meigen, 1820

Mouna 1998; Zaitzev 2008, **HA**, Tishka (2200 m)

*Exoprosopa italica* (Rossi, 1794)

Zaitzev 2008, **HA**, Taourirt, **AA**, Tizi-n'Taratine, Jebel Tighermine (SE of Ouarzazate), **SA**, Taganint (south of Bou-Izakarn)

*Exoprosopa jacchus* (Fabricius, 1805)

Séguy 1930a, **AP**, Mogador, Sidi Taibi, **MA**, Tizi-s'Tkrine (1700 m), Dar Salem, Aïn Leuh, **HA**, Bou Tazzert; Mouna 1998; Mirceni and Pârvu 2009; Evenhuis and Greathead 2015; **Rif** (Talassemthane, Forêt Izarine, road of Jebha, Zoumi) – MISR

*Exoprosopa minos* (Meigen, 1804)

Séguy 1949a, **AA**, Tata; Mouna 1998; Bader and Arabyat 2004; Dils and Özbek 2006; Zaitzev 2008, **MA**, Taferiat; El Hawagry 2011; El Hawagry and Dhafer 2015; Evenhuis and Greathead 2015; **MA** (Jebel Lachhab) – MISR

*Exoprosopa pandora* (Fabricius, 1805)

Greathead 2001; Bader and Arabyat 2004; Evenhuis and Greathead 2015

*Exoprosopa rutila* (Pallas & Wiedemann, 1818)

Evenhuis and Greathead 2015

***Micomitra* Bowden, 1964**

*Micomitra stupida* Rossi, 1790

= *Exoprosopa stupida* Rossi, in Mouna 1998: 84  
Mouna 1998

***Plesiocera* Macquart, 1840**

*Plesiocera algira* (Macquart, 1840)

Zaitzev 2008, **MA**, Taferiat; Evenhuis and Greathead 2015

***Heteralonia* Rondani, 1863**

*Heteralonia (Homolonia) megerlei* (Hoffmansegg in Wiedemann, 1818)

Zaitzev 2008, **SA**, Goulimine

*Heteralonia (Mesoclis) pygmalion* (Fabricius, 1805)

= *Exoprosopa pygmalion* Fabricius, in Timon-David 1951: 139

= *Mesoclis pygmalion* Fabricius, 1805, in Zaitzev 2008: 191

Séguy 1930a, **Rif**, Tanger, **AP**, Maâmora, Rabat, **MA**, Aïn Leuh; Timon-David 1951, **AP**, Temara; Mouna 1998; Zaitzev 2008, **AP**, Cherrat El Hawagry 2011; Evenhuis and Greathead 2015

*Heteralonia (Zygodiola) algira* (Fabricius, 1794)

Séguy 1930a, **Rif**, Tanger, **AP**, Mogador, **HA**, Bou Tazzert; Mouna 1998; Zaitzev 2008, **HA**, Tifnite (south of Aït Melloul); El Hawagry 2011; Evenhuis and Greathead 2015

*Heteralonia (Zygodiola) bagdadensis* (Macquart, 1840)

Zaitzev 2008, **AA**, Zagora

*Heteralonia (Zygodiola) singularis* (Macquart, 1840)

Bader and Arabyat 2004; Evenhuis and Greathead 2015

*Heteralonia arenacea* Becker, 1906

Evenhuis and Greathead 2015

*Heteralonia dispar* (Loew, 1869)

= *Exoprosopa dispar* Loew, in Timon-David 1951: 139

Timon-David 1951, **HA**, Marrakech; Mouna 1998; Dils and Özbek 2006; Evenhuis and Greathead 2015

*Heteralonia rivularis* (Meigen, 1820)

= *Exoprosopa rivularis* Meigen, in Timon-David 1951: 139

Séguy 1930a, **AP**, Rabat, Maâmora; Timon-David 1951, **AP**, Oued Akreuch; Mouna 1998; Zaitzev 1999; Bader and Arabyat 2004; Zaitzev 2008, **AP**, Rabat

***Oestranthrax* Bezzi, 1921**

*Oestranthrax brunnescens* (Loew, 1857)

Bader and Arabyat 2004

*Oestranthrax pallifrons* Bezzi, 1926

Evenhuis and Greathead 2015

***Pachyanthrax* François, 1964**

*Pachyanthrax albosegmentatus* (Engel, 1936)

Zaitzev 2008, **AA**, Jebel Tighermine (south of Ouarzazate)

*Pachyanthrax nomadorum* (Greathead, 1970)

Koçak and Kemal 2010; Evenhuis and Greathead 2015

***Exhyalanthrax* Becker, 1916***Exhyalanthrax afer* (Fabricius, 1794)= *Anthrax tangerinus* Bigot, 1892

Bezzi 1906; Mouna 1998; Bader and Arabyat 2004; Dils and Özbek 2006; Zaitzev 2008; El Hawagry 2011; Evenhuis and Greathead 2015, **Rif**, Tanger; **MA** (Ifrane) – MISR

***Hemipenthes* Loew, 1869***Hemipenthes morio* (Linnaeus, 1758)

Séguy 1930a, **MA**, Azrou, **HA**, Arround (Skoutana, 2000–2400 m); Dils and Özbek 2006; Koçak and Kemal 2010; Karimpour 2012; Evenhuis and Greathead 2015; **MA** (Azrou, Ifrane) – MISR

*Hemipenthes velutinus* (Meigen, 1820)

Séguy 1930a, **MA**, Azrou; Mouna 1998; Bader and Arabyat 2004; Dils and Özbek 2006; Koçak and Kemal 2010; Evenhuis and Greathead 2015

***Thyridanthrax* Osten-Sacken, 1886***Thyridanthrax alphonsi* Sánchez Terrón and Roldan Bravo, 2000

Sánchez Terrón and Roldan Bravo 2000

*Thyridanthrax elegans* ssp. *elegans* (Wiedemann in Meigen, 1820)

Séguy 1930a, **AP**, Rabat; Mouna 1998; Dils and Özbek 2006; El Hawagry 2011; Evenhuis and Greathead 2015; **AP** (Oued Cherrat, Rabat), **MA** (Volubilis) – MISR

*Thyridanthrax fenestratus* (Fallén, 1814)

Séguy 1926; Séguy 1930a, **EM**, Berkane (1350–1400 m); Mouna 1998; El Hawagry 2011; Evenhuis and Greathead 2015; **Rif** (Tomorot) – MISR

*Thyridanthrax griseolus* Klug, 1832Zaitzev 2008, **SA**, Taganint (south of Bou-Izakarn)*Thyridanthrax hispanus* (Loew, 1869)Becker and Stein 1913, **Rif**, Tanger; Sánchez Terrón and Roldan Bravo 2000*Thyridanthrax incanus* (Klug, 1832)= *Anthrax incana* Klug, 1832, in Séguy 1953a: 83

Séguy 1930a, **AP**, Oued Korifla (Zaers); Timon-David 1951, **AP**, Zaer; Séguy 1953a, **MA**, Tarda; Mouna 1998; Bader and Arabyat 2004; Dils and Özbek 2006; El Hawagry 2011; Karimpour 2012; Evenhuis and Greathead 2015

*Thyridanthrax loustai* Andréu Rubio, 1961

Sánchez Terrón and Roldan Bravo 2000

*Thyridanthrax maroccanus* Dils, 2012Dils 2012, **AA**, Ouarzazate, Skoura (1250 m), Amerzgane (1350 m)*Thyridanthrax mutilus* (Loew, 1869)\***AA***Thyridanthrax nebulosus* (Dufour, 1852)

Becker and Stein 1913, **Rif**, Tanger; Andréu Rubio 1959; Mouna 1998; Sánchez Terrón and Roldan Bravo 2000, **Rif**, Benibuifur, Melilla, Restinga; Evenhuis and Greathead 2015

*Thyridanthrax perspicillaris* ssp. *perspicillaris* (Loew, 1869)

Séguy 1930a, **MA**, Aïn Leuh, Forêt Azrou, **HA**, Tizi-n'Test, Jebel Imdress (2000–2450 m), Goundafa; Mouna 1998; Bader and Arabyat 2004; Dils and Özbek 2006; El Hawagry 2011; Evenhuis and Greathead 2015

*Thyridanthrax polyphemus* (Hoffmansegg, 1819)

Séguy 1930a, **MA**, Volubilis (400 m); Mouna 1998; Bader and Arabyat 2004; Dils and Özbek 2006; Karimpour 2012; Evenhuis and Greathead 2015

**Veribubo Evenhuis, 1978**

*Veribubo angusteoculatus* (Becker, 1902)

Zaitzev 2008, **AA**, Zagora

*Veribubo saudensis* (François, 1970)\*

**AA**

*Veribubo tabaninus* (François, 1970)\*

**AA, SA**

**Villa Lioy, 1864**

*Villa brunnea* Becker, 1916

Mouna 1998: 84

*Villa ceballosi* Andréu Rubio, 1959

Mouna 1998; Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Villa cingulata* Meigen, 1804

Mouna 1998; **AP** (Rabat, Casablanca), **MA** (Volubilis, Fès) – MISR

*Villa distincta* (Meigen in Waltl, 1835)

Dils and Özbek 2006; Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Villa fasciata* (Meigen, 1804)

= *Villa circumdata* (Meigen), in Séguy 1941a: 29

Séguy 1930a, **AP**, Rabat; Séguy 1941a, **AP**, Rabat, **HA**, Tachdirt (Toubkal, 2500 m); Mouna 1998; Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Villa hottentotta* (Linnaeus, 1758)

= *Anthrax hottentotus* Linnaeus, in Séguy 1926: 198, Séguy 1930a: 92, Bléton and Fleuzet 1939: 64

Séguy 1930a, **AP**, Rabat, **MA**, Aïn Leuh; Bléton and Fleuzet 1939, **MA**, Fès; Séguy 1941d, **HA**, Tizi-n'Test; Mouna 1998; Dils and Özbek 2006; Evenhuis and Greathead 2015 – MISR

*Villa ixion* (Fabricius, 1794)

Dils and Özbek 2006; Koçak and Kemal 2010; Karimpour 2012; Evenhuis and Greathead 2015

*Villa laevis* Becker, 1915

Bader and Arabyat 2004; Dils and Özbek 2006; Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Villa leucostoma* (Meigen, 1820)

Mouna 1998: 84; **AP** (Bou-Regreg) – MISR

*Villa luculenta* Séguy, 1941

Séguy 1941d, **AA**, Taroudant; Mouna 1998; Koçak and Kemal 2010; Evenhuis and Greathead 2015

*Villa niphobleta* (Loew, 1869)

Bader and Arabyat 2004; Koçak and Kemal 2010; Karimpour 2012; Evenhuis and Greathead 2015

*Villa venusta* (Meigen, 1820)

Mouna 1998: 84

***Desmatoneura* Williston, 1895**

*Desmatoneura albifacies* (Macquart, 1840)

Ebejer et al. 2019, **AA**, Merzouga (714 m)

*Desmatoneura flavifrons* Becker, 1915

Zaitzev 2008, **AA**, Ouarzazate, Taroudant, Jebel Tighermine (SE of Ouarzazate)

***Petrorossia* Bezzi, 1908**

*Petrorossia albula* Zaitzev, 1962

Zaitzev 1999; Bader and Arabyat 2004; Zaitzev 2008, **AA**, Jebel Tighermine (SE of Ouarzazate); El Hawagry 2011; Evenhuis and Greathead 2015

*Petrorossia freidbergi* Zaitzev, 1999

Zaitzev 2008, **AA**, Jebel Tighermine (SE of Ouarzazate)

*Petrorossia hespera* (Rossi, 1790)

Séguy 1949a, **AA**, Tata; Mouna 1998; Zaitzev 1999; Dils and Özbek 2006; El Hawagry 2011; Evenhuis and Greathead 2015; **AP** (Bou-Regreg), **MA** (Timahdit) – MISR

*Petrorossia margaritae* Zaitzev, 1999

Zaitzev 2008, **AA**, Ouarzazate, Jebel Tighermine (SE of Ouarzazate)

**New records for Morocco**

*Amictus setosus* Loew, 1869

Atlantic Plain: Rommani, Marmouch, 33.568°N, 06.533°W, 400 m, 1♂1♀, Dils J.- Faes J., coll: PCJD.

*Aphoebantus wadensis* Becker, 1925

Sahara: Tata, 9 km. W Tissint, 29.851°N, 07.265°W, 535 m, 1♂1♀, 03.iii.2007, Dils J.- Faes J., coll: PCJD.

*Bombylius* (Unplaced) *megacephalus* Portschinsky, 1887

Eastern Morocco: Figuig, Abbou Lakhal, 32.1587°N, 01.507°W, 1050 m, 1♀, 07.iii.2009, Dils J.- Faes J., coll: PCJD.

Anti Atlas: Tiznit, 84 km. SSE Guelmim, 28.631°N, 10.75522°W, 235 m, 1♂, 27.ii.2007, Dils J.- Faes J., coll: PCJD; Tiznit, Abaynou, 29.057°N, 10.026°W, 360 m, 1♀, 13.iii.2009, Dils J.- Faes J., coll: PCJD.

*Cononedys efflatouni* Bezzi, 1925

Sahara: Guelmim, Souk Tnine Nouaday, 29.166°N, 09.279°W, 680 m, 2♂3♀, 07.iv.2015, Dils J.- Faes J., coll: PCJD.

*Conophorus bellus* Becker, 1906

High Atlas: Marrakech, Oukaïmeden, 31.233°N, 07.817°W, 2200 m, 3♂, 06.iv.2006, Dils J.- Faes J., coll: PCJD.

*Crocidium aegyptiacum* Bezzi, 1925

Anti Atlas: Tiznit, Mesti, 29.274°N, 10.139°W, 280 m, 1♂, 23.iii.2006, Dils J.- Faes J., coll: PCJD.

Sahara: Tata, 28 km E of Tachjicht, 29.106°N, 09.149°W, 700 m, 1♀, 02.iii.2007, Dils J.- Faes J., coll: PCJD.

*Crocidium nudum* Efflatoun, 1945

Eastern Morocco: Oujda, Plateau du Rekkam, 33.839°N, 02.55781°W, 1150 m, 1♀, 25.iv.2010, Dils J.- Faes J., coll: PCJD.

Anti Atlas: Agadir, Imsouane, 30.885°N, 09.780°W, 270 m, 3♂13♀, 09.iv.2009, Dils J.- Faes J., coll: PCJD; Ouarzazate, Amerzgane, 31.024°N, 07.223°W, 1370 m, 17♂12♀, 31.iii.2006, Dils J.- Faes J., coll: PCJD; Taliouine, 18 km. W of Taliouine, 30.6003°N, 08.082°W, 900 m, 2♀, 24.iii.2009, Dils J.- Faes J., coll: PCJD; Taroudant, Tafinegoult, 30.734°N, 08.430°W, 680 m, 3♀, 24.iii.2009, Dils J.- Faes J., coll: PCJD; Tiznit, Arbaa Sahel, 29.657°N, 09.869°W, 320 m, 11♂26♀, 21.iii.2006, Dils J.- Faes J., coll: PCJD.

*Cytherea albolineata* Bezzi, 1925

Sahara: Guelmim, Tainzirt, 29.121°N, 09.333°W, 670 m, 1♀, 31.iii.2010, Dils J.- Faes J., coll: PCJD.

*Geron intonsus* Bezzi, 1925

Middle Atlas: Khenifra, Boulôjoul, 32.873°N, 04.945°W, 1500 m, 7♂10♀, 26.iv.2008, Dils J.- Faes J., coll: PCJD.

High Atlas: Midelt, 32.680°N, 04.677°W, 1400 m, 2♂2♀, 20.iv.2015, Dils J.- Faes J., coll: PCJD; Midelt, Zeïda, 32.781°N, 04.964°W, 1500 m, 9♂11♀, 24.iv.2015, Dils J.- Faes J., coll: PCJD.

*Legnotomyia fascipennis* Bezzi, 1925

Anti Atlas: Zagora, Tazarinne, 30.798°N, 05.584°W, 900 m, 1♂, 07.iii.2007, Dils J.- Faes J., coll: PCJD.

Sahara: Tata, 9 km W of Tissint, 29.851°N, 07.265°W, 535 m, 2♂1♀, 03.iii.2007, Dils J.- Faes J., coll: PCJD.

*Thevenetimyia quedenfeldti* (Engel, 1885)

Rif: Tanger-Tétouan, Souk El Kolla (Quolla), 35.083°N, 05.538°W, 150 m, 5♂4♀, 30.iv.2017, Dils J.- Faes J., coll: PCJD.

Atlantic Plain: Rommani, Merchouch, 33.568°N, 06.753°W, 400 m, 5♂22♀, 04.v.2010, Dils J.- Faes J., coll: PCJD.

Middle Atlas: Tadla-Azilal, Afourer, 32.180°N, 06.520°W, 1150 m, 5♂10♀, 07.v.2008, Dils J.- Faes J., coll: PCJD; Béni Mellal, El Ksiba, 32.576°N, 06.050°W, 870 m, 7♂23♀, 23.iv.2008, Dils J.- Faes J., coll: PCJD.

*Thyridanthrax mutilus* Loew, 1869

Anti Atlas: Tiznit, Sidi Ifni, 29.384°N, 10.172°W, 0 m, 7♂1♀, 10.iv.2008, Dils J.- Faes J., coll: PCJD.

*Veribubo saudensis* François, 1970

Anti Atlas: Erfoud, Tikkert-N-Ouchane, 31.223°N, 04.784°W, 830 m, 1♂3♀, 03.iv.2009, Dils J.- Faes J., coll: PCJD.

*Veribubo tabaninus* François, 1970

Anti Atlas: Ouarzazate, Amerzgane, 31.024°N, 07.223°W, 1370 m, 2♂9♀, 31.iii.2006, Dils J.- Faes J., coll: PCJD; Erfoud, Tikkert-N-Ouchane, 31.250°N, 04.617°W, 860 m, 1♀, 07.iii.2007, Dils J.- Faes J., coll: PCJD; Ouarzazate, Amerzgane, 31.017°N, 07.229°W, 1350 m, 6♂27♀, 25.iii.2009, Dils J.- Faes J., coll: PCJD; Ouarzazate, Amerzgane, 31.017°N, 07.229°W, 1350 m, 12♂8♀, 25.iii.2009, Dils J.- Faes J., coll: PCJD; Ouarzazate, 30.847°N, 06.817°W, 1200 m, 1♀, 30.iii.2009, Dils J.- Faes J., coll: PCJD. Sahara: Guelmim, Tainzirt, 29.121°N, 09.333°W, 670 m, 22♀, 31.iii.2010, Dils J.- Faes J., coll: PCJD.

**MYDIDAE**

K. Kettani, T. Dikow

Number of species: **9**. Expected: 10

Faunistic knowledge of the family in Morocco: moderate

## Leptomydinae

***Leptomydas* Gerstaecker, 1868**

*Leptomydas lusitanicus* (Wiedemann, 1820)

Mouna 1998

## Rhopaliinae

***Rhopalia* Macquart, 1838**

*Rhopalia berlandi* Séguy, 1949a: 153

Séguy 1949a, **AA**, Tagounit, Asni; Mouna 1998; Dikow 2017

***Perissocerus* Gerstaecker, 1868**

*Perissocerus rungsi* Séguy, 1953

Séguy 1953a, **SA**

## Syllegomydinae

## Syllegomydini

***Syllegomydas* Becker, 1906**

*Syllegomydas algiricus* (Gerstaecker, 1868)

= *Rhopalia algirica* Gerstaecker, in Séguy 1928c: 149

Gerstaecker 1868, **AP**, Casablanca; Séguy 1928c, **AP**, Rabat; Séguy 1930a, **AP**, Rabat; Mouna 1998; El Hawagry 2011; Dikow 2017



*Syllegomydas berlandi* (Séguy, 1941)

Séguy 1941, **AA**, Agadir; Dikow 2017

*Syllegomydas buenii* Arias, 1914

Arias 1914, **AA**, Tafilalt; Séguy 1928c; Séguy 1930a; Carles-Tolrá 2015; Carles-Tolrá 2017, **EM**, Mariouri, Trifa; Dikow 2017

*Syllegomydas cinctus* Macquart, 1835

Macquart 1835, **MA**, Immouzer road, **AA**, Agadir, Taroudant; Séguy 1930a; Mouna 1998; Carles-Tolrá 2017, **EM**, Quebdana, douar Shila, **AA**, Agadir coast; Dikow 2017

*Syllegomydas maroccanus* Séguy, 1928

Séguy 1928c, **AP**, Kénitra, Rabat, Oued Korifla, Forêt Zaers; Séguy 1930a, **AP**, Rabat, Temara, Oued Korifla, Forêt Zaers; Séguy 1932c; Mouna 1998; Carles-Tolrá 2017, **AP**, Larache, Ras Remel; Dikow 2017; **AP** (Kénitra) – MISR

*Syllegomydas merceti* Arias, 1914

Arias 1914, **AP**, Mogador; Séguy 1930a; Mouna 1998; El Hawagry 2011, **AP**, Mogador; Dikow 2017

## MYTHICOMYIIDAE

K. Kettani, N. Evenhuis

Number of species: **8**. Expected: 15

Faunistic knowledge of the family in Morocco: poor

### Empidideicinae

***Empidideicus* Becker, 1907**

*Empidideicus crocea* Séguy, 1949

= *Cyrtosia crocea* Séguy, in Séguy 1949a: 85

Séguy 1949a, **SA**, Guelmim; Séguy 1949c; Mouna 1998; Evenhuis 2002

### Glabellulinae

***Glabellula* Bezzi, 1902**

*Glabellula maroccana* Evenhuis & Kettani, 2018

Evenhuis and Kettani 2018, **Rif**, Adrou (PNPB) – BPBM, MISR

***Leylaiya* Efflatoun, 1945**

*Leylaiya pellea* Evenhuis & Kettani, 2018

Evenhuis and Kettani 2018, **AA**, Tiznit – BPBM

### Mythicomyiinae

***Mythenteles* Hall & Evenhuis, 1991**

*Mythenteles signifera* Evenhuis & Kettani, 2018

Evenhuis and Kettani 2018, **Rif**, Talassemrane (maison forestière, 1699 m) – BPBM, MISR

### Platypyginae

#### ***Cyrtisiopsis* Séguy, 1930**

*Cyrtisiopsis melleus* (Loew, 1856)

Evenhuis 2002; Zaitzav 2008, **AA**, Jebel Tighermine (SE Ouarzazate); Koçak and Kemal 2010; El Hawagry 2011

*Cyrtisiopsis singularis* Séguy, 1930

Evenhuis 2002

#### ***Cyrtosia* Perris, 1839**

*Cyrtosia aglota* Séguy, 1930

Evenhuis 2002

*Cyrtosia marginata* Perris, 1839

Séguy 1930a, **HA**; Mouna 1998; Evenhuis 2002; Evenhuis and David 2004

## SCENOPINIDAE

K. Kettani, M. Carles-Tolrá

Number of species: **8** (+3 unidentified). Expected: 12

Faunistic knowledge of the family in Morocco: good

### Scenopininae

#### ***Scenopinus* Latreille, 1802**

*Scenopinus albicinctus* (Rossi, 1794)

= *Omphrale albicincta* Rossi, in Séguy 1930a: 110

Séguy 1930a; Mouna 1998

*Scenopinus fenestralis* (Linnaeus, 1758)

= *Omphrale fenestralis* Linnaeus, in Séguy 1930a: 110

Séguy 1930a; Mouna 1998

*Scenopinus glabrifrons* Meigen, 1824

= *Omphrale glabrifrons* Meigen, in Séguy 1930a: 110

Séguy 1930a, **MA**, Aïn Leuh; Mouna 1998

*Scenopinus niger* (De Geer, 1776)

Becker and Stein 1913, **Rif**, Tanger; Mouna 1998

*Scenopinus parallelus* Kelsey, 1969

Kelsey 1969, **AP**, Villa Cisneros (Dakhla), **SA**, Río de Oro (Oued Eddahab)

*Scenopinus physadius* (Séguy, 1930)

= *Omphrale physadia* Séguy, in Séguy 1930a: 111

Séguy, 1930, **EM**, Bou Denib; Kelsey 1969, **EM**, Bou Denib; Mouna 1998

*Scenopinus pilosus* (Séguy, 1930)

= *Omphrale pilosa* Séguy, in Séguy 1930a: 111

Séguy 1930a, **AP**, Bou Knadel; Kelsey 1969, **AP**, Bou Knadel; Mouna 1998; Carles-Tolrá 2001

*Scenopinus* undescribed sp. 1

Ebejer et al. 2019, **Rif**, Martil (9 m)

*Scenopinus* undescribed sp. 2

Ebejer et al. 2019, **Rif**, Adrou (556 m)

***Stenomphrale* Kröber, 1937**

*Stenomphrale teutankhameni* (Kröber, 1923)

Ebejer et al. 2019, **AP**, forest of Maâmora (56 m)

*Stenomphrale* sp.

**AP** (Essaouira (J.-P. Haenni leg.)) – MHNN Neuchâtel

## THEREVIDAE

K. Kettani, M. Hauser

Number of species: **27**.

Faunistic knowledge of the family in Morocco: moderate

Phycusinae

Phycusini

***Actorthia* Kröber, 1912**

*Actorthia micans* (Kröber, 1924)

Kröber 1924, **AA**, Errachidia (45 km S Erfoud), Merzouga

***Phycus* Walker, 1850**

*Phycus lacteipennis* Lyneborg, 2002

Lyneborg 2002, **AA**, 25 km S Goulmima (1000 m), **SA**, Mekn s-Tafilalet; Winterton et al. 2012; Badrawy and Mohammad 2013

***Salentia* Costa, 1857**

*Salentia anancitis* (Séguy, 1941)

= *Apioeicoceras anancitis* Séguy, in Séguy 1941d: 10

Séguy 1941d, **AA**, Agadir; Mouna 1998

*Salentia costalis* (Wiedemann, 1824)

= *Apioeicoceras costalis* Wiedemann, in Séguy 1930a: 108

Wiedemann 1824, **AP**, Mogador, **HA**, Marrakech-Tensift-Al Haouz; Séguy 1930a; Mouna 1998; Koçak and Kemal 2010

*Salentia fuscipennis* Costa, 1857

Costa 1857, **Rif**, Tanger, **AA**, Tagadirt (Agadir); Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **HA**, Bou Knadel, Tinmel; Mouna 1998

Therevinae

Therevini

***Acanthothereva* Séguy, 1935**

*Acanthothereva rungsi* Séguy, 1935

Séguy 1935b, **AP**, Mehdia (20 km S Rabat); Lyneborg 1968; Koçak and Kemal 2010; **Rif** (Cap Spartel) – MISR

***Acrosathe* Irwin & Lyneborg, 1981**

*Acrosathe annulata* (Fabricius, 1805)

Ebejer et al. 2019, **Rif**, Oued Kbir (Béni Ratene, 157 m)

***Chrysanthemyia* Becker, 1912**

*Chrysanthemyia chrysanthemi* (Fabricius, 1787)

Fabricius 1787, **EM**, Béni Snassen Mountains, Tafouralt (800 m); Séguy 1930a, **MA**, Meknès, Berrechid; Mouna 1998; **MA** (Oued Grou, Timahdit) – MISR

*Chrysanthemyia velutinifrons* (Becker, 1912)

= *Chrysanthemyia lucidifrons* Becker 1912: 81

= *Oedicera velutinifrons* Becker, in Becker and Stein 1913: 82

Becker 1912, **Rif**, Region de Tanger-Tétouan, Cercle d'Ouezzane (300 m), **AP**, 3 km S Settât, **EM**, Figuig, **MA**, Fès-Boulmane, Sidi Harazem (223 m); Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **MA**, Meknès; Mouna 1998; **MA** (Oued Grou) – MISR

***Hoplosathe* Lyneborg & Zaitsev, 1980**

*Hoplosathe distincta* Lyneborg & Zaitsev, 1980

Lyneborg and Zaitsev 1980, **HA**, Oued Tensift (Marrakech)

***Neotherevella* Lyneborg, 1978**

*Neotherevella macularis* (Wiedemann, 1828)

Hauser et al. 2017, **AA**, Tifnite (10 Km S Agadir), Merzouga (45 Km S Erfoud)

***Thereva* Latreille, 1797**

*Thereva atra* Kröber, 1913

El Hawagry 2011

*Thereva aureoscutellata* Kröber, 1914

Ebejer et al. 2019, **Rif**, Moulay Abdelsalam (965 m)

*Thereva binotata* Loew, 1847

Koçak and Kemal 2010

*Thereva bipunctata* Meigen, 1820<sup>16</sup>

Ebejer et al. 2019, **MA**, Khénifra (17 km SW of Midelt, 1940 m; 17 km NW of Zaida, 1878 m; 28 km S of Timahdit, 2100 m), Lac Aguelmane Afennourir (30 km SW of Azrou, 2050 m)

16 *Thereva bipunctata* has been considered a junior synonym of *unica*, but these are valid sister species because of differences in the aedeagus between the southern and northern populations (Ebejer pers. comm.).

*Thereva brevicornis* Loew, 1847<sup>17</sup>

Pârvu et al. 2006, **AP**, Cap Sim; Popescu-Mirceni 2011

*Thereva chrysargyrea* Séguy, 1953

Séguy 1953a, **SA**, Amguilli Sguelma

*Thereva cincta* Meigen, 1820

Ebejer et al. 2019, **Rif**, Oued Aliane (Ksar Sghir, 1 m)

*Thereva funebris* Meigen, 1820<sup>18</sup>

= *Thereva lugubris* Meigen

Mouna 1998; **AP** (Rabat), **MA** (Ifrane) – MISR

*Thereva graeca* Kröber, 1912<sup>3</sup>

Séguy 1930a, **Rif**, Tanger; Mouna 1998

*Thereva plebeja* (Linnaeus, 1758)<sup>3</sup>

Séguy 1953a, **AA**, Tifnit (Souss); Mouna 1998; **MA** (Ras el Ma) – MISR

*Thereva powelli* Séguy, 1930

Séguy 1930a, **MA**, Forêt Azrou; **MA** (Ras el Ma) – MISR

*Thereva piloptera* Wiedemann, 1824

Wiedemann 1824, **HA**, Ouirgane (Marrakech, 1000 m); Séguy 1930a, **Rif**, Tanger, **AP**, Mogador, **MA**, Meknès; Séguy 1953a, **AP**, Temara; Mouna 1998; El Hawagry 2011

*Thereva spinulosa* Loew, 1847

Loew 1847, **AP**, Maâmora, **MA**, Khemisset

*Thereva stigmatica* Kröber, 1912

EL-Hawagy 2011, **Rif**, Tanger

*Thereva strigata* (Fabricius, 1794)<sup>19</sup>

Koçak and Kemal 2010

*Thereva tuberculata* Loew, 1847

= *Thereva algerica* Kröber, 1913, in Séguy 1953a: 83

Loew 1847, **AP**, Salé; Séguy 1930a, **MA**, Meknès; Séguy 1953a, **AP**, Salé; Mouna 1998; Koçak and Kemal 2010

## Acknowledgments

We gratefully acknowledge Martin Ebejer (UK) for material, comments and cooperation, as well as Gail Kampmeier (USA) for sharing data of Moroccan Therevidae out of the mandala database (<http://www.inhs.illinois.edu/research/mandala/about/>).

17 *Thereva brevicornis* may be a misidentification of authors. *Thereva brevicornis* is more central European in distribution, and is not found in Spain.

18 *Thereva funebris*, *Thereva graeca*, and *Thereva plebeja* are cited only on the basis of the list of Diptera species present in the collections of the MISR published by Mouna (1998). The identifications of this material could not be verified.

19 *Thereva strigata* may be a misidentification of authors.

## Empidoidea

## ATELESTIDAE

K. Kettani, P. Gatt

Number of species: **1**. Expected: 1

Faunistic knowledge of the family in Morocco: poor

***Atelestus* Walker, 1837**

*Atelestus* sp. nov.

Ebejer et al. 2019, **Rif**, Dardara (484–730 m), Aïn Tissemlal (Azilane, 1255 m),  
Douar El Hamma (338 m), Chrabkha pond (Al Manzla, 58 m)

## EMPIDIDAE

K. Kettani, C. Daugeron

Number of species: **40**. Expected: 100

Faunistic knowledge of the family in Morocco: poor

## Clinocerinae

***Clinocera* Meigen, 1803**

*Clinocera maroccana* (Séguy, 1941): 29 (= *Hydrodromia*)

= *Atalanta* (*Hydrodromia*) *algira* (Vaillant, 1952): 65

Séguy 1941a, **HA**, Anrhemer (Toubkal, 2500 m); Vaillant 1956b, **HA**, Sidi  
Chamarouch; Vaillant 1964; Dakki 1997

*Clinocera megalatlantica* (Vaillant, 1957): 65 (= *Atalanta* (*Atalanta*))

Vaillant 1956b, **HA**; Dakki 1997

*Clinocera nigra* Meigen, 1804: 292

= *Heleodromia unicolor* (Curtis, 1834): plate 513, *Paramesia roberti* (Macquart,  
1835): 657

Vaillant 1956b, **HA**, Izourar, Sidi Chamarouch, Aguelmous; Dakki 1997

***Dolichocephala* Meigen, 1803**

*Dolichocephala ocellata* (Costa, 1858): 7 (= *Ardoptera*)

= *oculata* (Loew, 1858–7): 7 (= *Ardoptera*)

= *novemguttata* (Strobl, 1893): 98 (= *Ardoptera*)

= *albohalterata* (Strobl, 1898): 399 (= *Ardoptera*)

= *barbarica* Vaillant, 1952: 65

= *algira* Vaillant, 1957: 64

Vaillant 1956b, **HA**, Imi-N'Ifri; Dakki 1997

*Dolichocephala pavonica* Vaillant & Gagneur, 1998: 380

Vaillant and Gagneur 1998, **HA**, Demnat

**Kowarzia Mik, 1881**

*Kowarzia barbatula* (Mik, 1880): 347 (= *Clinocera*)

= *Clinocera dorieri* (Vaillant, 1968): 88

Vaillant 1956b, **HA**, Cascade Siroua, Lac Tamhda (Anremer), Aguelmous, Sidi Chamarouch, Izourar, Oukaïmeden; Dakki 1997; Vaillant and Moubayed 1998

*Kowarzia bipunctata* (Haliday, 1833) (= *Heleodromia*)

Vaillant 1956b, **HA**, Oukaïmeden; Vaillant 1964; Dakki 1997

*Kowarzia dieuzedei* Vaillant, 1953: 60

Vaillant 1956b, **HA**, Lac Tamhda (Anremer); Vaillant 1964, **HA**; Dakki 1997

*Kowarzia madicola* (Vaillant, 1965): 152 (= *Atalanta*)

Vaillant 1956b, **HA**, Tahanaout

*Kowarzia tenella* (Wahlberg, 1844): 107 (= *Parmesia*)

= *Heleodromia zetterstedti* (Walker, 1851): 105

= *Wiedemannia securigera* (Engel, 1918): 70

Vaillant 1956b, **HA**, Cascade Siroua, Lac Tamhda (Anremer), Aguelmous, Sidi Chamarouch, Izourar, Oukaïmeden; Dakki 1997; Vaillant and Moubayed 1998

**Wiedemannia Zetterstedt, 1838**

*Wiedemannia (Chamaedipsia) beckeri* (Mik, 1889): 71 (= *Chamaedipsia*)

= *jugorum* (Strobl, 1893): 105 (= *Chamaedipsia*)

= *crinita* Engel, 1918: 217 (as var. of *W. beckeri*)

= *alticola* Vaillant, 1951: 54

= *alpina* Vaillant, 1967: 274 (as ssp. of *W. beckeri*)

= *glaciola* Wagner, 1985: 86 (as ssp. of *W. beckeri*; new name for *W. beckeri alpina* Vaillant)

Dakki 1997

*Wiedemannia (Chamaedipsia) mgounica* Vaillant, 1957: 69

Vaillant 1956a, **HA**, M'Goum; Dakki 1997

*Wiedemannia (Philolutra) azurea* (Vaillant, 1951): 3 (= *Philolutra*)

El Mezdi and Giudicelli 1985, **HA**, Khetarar Marrakech; Dakki 1997; Vaillant and Moubayed 1998

*Wiedemannia (Philolutra) fallaciosa* Loew, 1873: 44

Vaillant 1964, **HA**; Dakki 1997

*Wiedemannia (Philolutra) fallaciosa* ssp. *litardierei* Vaillant, 1957: 67

Vaillant 1956a, **HA**; Dakki 1997

*Wiedemannia (Roederella) ouedorum* Vaillant, 1952: 371

= *ouedorum* (error) Vaillant, 1978: 469

Vaillant 1964, **HA**; Dakki 1997

**Hemerodromiinae****Hemerodromia Meigen, 1822**

*Hemerodromia bethiana* Vaillant & Gagneur, 1998

Vaillant and Gagneur 1998, **MA**, Tigrigra (Azrou)



- Hemerodromia subapicalis* Yang, Zhang & Zhang, 2007  
 = *Hemerodromia apicalis* Vaillant and Gagneur 1998: 372 (preoccupied by Smith, 1969)  
 Vaillant and Gagneur 1998, **HA**, Oum-er-Rbia; Yang et al. 2007
- Hemerodromia tigrigrana* Vaillant & Gagneur, 1998  
 Vaillant and Gagneur 1998, **MA**, Tigrigra (Azrou)
- Hemerodromia todrhana* (Vaillant, 1956)  
 Vaillant 1956, **HA**, Todrha; El Mezdi and Guidicelli 1985; Dakki 1997; Vaillant and Gagneur 1998
- Hemerodromia zarcana* Vaillant & Moubayed, 1998  
 Vaillant and Gagneur 1998, **MA**, Tigrigra (Azrou)

## Empidinae

## Empidini

***Empis* Linnaeus, 1758**

- Empis* (*Coptophlebia*) *confluens* Becker, 1907  
**MA** (Meknès), 19.v.1997, K. Deneš leg. – OUMNH
- Empis* (*Empis*) *decora* Meigen, 1822  
 Bahid 2018, **Rif**, Oued Tkarrae (PNPB); Ebejer et al. 2019, **Rif**, Oued Nakhla, Moulay Abdelsalam
- Empis* (*Empis*) *nikita* Shamshev, 2018  
 Shamshev 2018, **AP**, Essaouira
- Empis* (*Kritempis*) *taffertensis* Daugeron, 2009  
 Daugeron 2009, **MA**, forest of Taffert; Bahid 2018
- Empis* (*Leptempis*) *tenuis* Bahid & Daugeron, 2017  
 Bahid et al. 2017, **MA**, Tizi-s'Tkrine (Jebel Amar, 1760 m); Bahid 2018
- Empis* (*Pachymeria*) *suberis* Becker, 1907  
 Ebejer et al. 2019, **Rif**, Moulay Abdelsalam, Issaguen, Bab Berred, Jebel Lakraâ
- Empis* (*Polyblepharis*) *eumera* Loew, 1866  
 Ebejer et al. 2019, **MA**, Ifrane
- Empis* (*Xanthempis*) *chopardi* Daugeron, 1997  
 Daugeron 1997, **MA**, Ifrane; Daugeron 2000; Bahid 2018
- Empis* (*Xanthempis*) *edithae* Daugeron, 1997  
 Daugeron 1997, **HA**, High Imminen, Tachdirt; Daugeron 2000; Bahid 2018
- Empis* (*Xanthempis*) *ifranensis* Daugeron, 1997  
 Daugeron 1997, **MA**, Ifrane; Daugeron 2000; Bahid 2018
- Empis* (*Xanthempis*) *styriaca* (Strobl, 1893)  
 Chvála and Wagner 1989, **HA** [doubtful record]; Bahid 2018
- Empis* (*Xanthempis*) *widanensis* Bahid & Daugeron, 2018  
 Bahid et al. 2018, **Rif**, Dayat Bayan Widane, Aïn Sedraouia, Tazia, Anissar, Lalla Outka

***Rhamphomyia* Meigen, 1822***Rhamphomyia* (*Rhamphomyia*) *maroccana* Collin, 2009Chvála and Wagner 1989, **MA**, Ifrane; Collin 2009, **MA**, Ifrane; Bahid 2018, **Rif**, Oued Akrir (Fifi)*Rhamphomyia* (*Holoclera*) *tenuipes* Becker, 1907\***AP**, Haenni pers. comm.

Hilarini

***Hilara* Meigen, 1822***Hilara algecirasensis* Strobl, 1899Ebejer et al. 2019, **MA**, Lac Aguelmane Afennourir, **HA**, Ziz river*Hilara almeriensis* Strobl, 1906Chvála 2008, **AA**, Tifouloute (1146 m)*Hilara fusitibia* Strobl, 1899Chvála 2008, **MA**, Ifrane (Forêt de Cédres, 1500 m)*Hilara longeciliata* Strobl, 1906Chvála 2008, **AP**, Rabat (near Oued Bou-Regreg, 0–10 m)*Hilara schachti* Chvála, 2008Chvála 2008, **MA**, Ifrane (Ghabat al Behar, 1650–1700 m); Bahid 2018**New record for Morocco***Rhamphomyia* (*Holoclera*) *tenuipes* Becker, 1907

Atlantic Plain: Essaouira, 6 km W, 3.iv.2002, Forêt de genévriers pâturée, 1♂1♀, J.-P. Haenni leg., coll. MHNN.

**Acknowledgements**

We are very grateful to Bradley Sinclair (Canadian Food Inspection Agency, Canada) and Adrian Plant (Mahasarakham University, Thailand) for reviewing parts of this family.

**DOLICHOPODIDAE**

K. Kettani, I.Ya. Grichanov, O.P. Negrobov

Number of species: **112**. Expected: 300

Faunistic knowledge of the family in Morocco: poor

Diaphorinae

***Argyra* Macquart, 1834***Argyra argentina* Meigen, 1824Parent 1924, **Rif**, Cap Spartel, Tétouan; Parent 1927, **Rif**, Tétouan

*Argyra argyria* (Meigen, 1824)

Parent 1924 (females only), **Rif**, Cap Spartel, Tétouan; Kechev and Ivanova 2015

*Argyra biseta* Parent, 1929

Parent 1929a, **Rif**, Tanger; Vaillant 1955a

*Argyra grata* Loew, 1857<sup>20</sup>

Negrobov 1991 (no material provided)

***Asyndetus* Loew, 1869***Asyndetus separatus* (Becker, 1902)

Ebejer et al. 2019, **AA**, 14 km E of Rich (Errachidia, 1278 m)

***Chrysotus* Meigen, 1824***Chrysotus albibarbus* Loew, 1857

Ebejer et al. 2019, **MA**, Lac Aguelmane Afennourir (30 km SW of Azrou, 1760 m); Grichanov 2019, **AA**, Aït Melloul

*Chrysotus gramineus* (Fallén, 1823)

Parent 1924, **Rif**, Tanger; Parent 1927

*Chrysotus larachensis* Grichanov, Nourti & Kettani, 2020

Grichanov et al. 2020b, **Rif**, El Hamma (338 m)

*Chrysotus pennatus* Lichtwardt, 1902

Ebejer et al. 2019, **Rif**, Smir Barrage (145 m), **AA**, 1 km N of Tarda (Errachidia, 1023 m)

*Chrysotus suavis* Loew, 1857

Grichanov 2009, **HA**, Asni area (1100–1400 m); Nourti et al. 2019a, **Rif**, Amsemlil env. (1067 m), **MA**, Dayat Ifrane (1607 m), **HA**, Tahanout (956 m); Dawah et al. 2020

***Diaphorus* Meigen, 1824***Diaphorus africanus* Parent, 1924

Parent 1924, **Rif**, Tétouan, Tanger; Parent 1927, **Rif**, Tanger; Ebejer et al. 2019, **Rif**, Oued Siflaou (281 m); Grichanov 2019, **AA**, Ouarzazate (1100 m)

*Diaphorus vitripennis* Loew, 1859

Grichanov 2019, **AA**, Aït Melloul

## Dolichopodinae

***Dolichopus* Latreille, 1796***Dolichopus andalusiacus* (Strobl, 1899)

Ebejer et al. 2019, **AP**, Loukous marsh (2 m); Nourti et al. 2019a, **Rif**, plage Stihat (0 m)

<sup>20</sup> The following species records from Morocco are known to the authors by various checklists with no material provided: *Argyra grata* Loew, 1857; *Sybistroma obscurellum* Fallén, 1823; *Tachytrechus consobrinus* (Haliday, 1851); *Medetera petrophila* Kowarz, 1877; *Rhaphium appendiculatum* Zetterstedt, 1849. Their presence in Morocco must be confirmed.

*Dolichopus griseipennis* Stannius, 1831

Parent 1924, **Rif**, Tanger; Parent 1927; Séguy 1930a, **Rif**, Tanger; Nourti et al. 2019a, **Rif**, Adrou (PNPB, 556 m)

*Dolichopus sabinus* Haliday, 1838

Ebejer et al. 2019, **Rif**, Martil (9 m), Oued Laou (2 m); Nourti et al. 2019a, **Rif**, plage Stihat (4 m)

*Dolichopus scutopilosus* Parent, 1933

Parent 1933, **HA**, Arround

*Dolichopus signifer* Haliday, 1832

Parent 1929b, “Maroc”; Séguy 1930a, **MA**, Ras el Ma; Grichanov 2019, **HA**, Oukaïmeden (2600 m)

*Dolichopus strigipes* Verrall, 1875

Grichanov 2009, **AP**, 40 km S Larache (0–20 m)

***Gymnopternus* Loew, 1857***Gymnopternus assimilis* (Staeger, 1842)

Nourti et al. 2019a, **Rif**, Amsemlil (1067 m)

***Hercostomus* Loew, 1857***Hercostomus apollo* (Loew, 1869)

Nourti et al. 2019a, **Rif**, Talassemtane (1696 m), Adrou (PNPB, 556 m), Amsemlil (PNPB, 1067 m)

*Hercostomus canariensis* Santos Abreu, 1929

Grichanov et al. 2020a, **Rif**, Pont de Dieu (Akchour, 536 m); Nourti et al. 2019a (as *H. aff. exarticulatoïdes* Stackelberg, 1949)

*Hercostomus chetifer* (Haliday, 1849)

Ebejer et al. 2019, **Rif**, Sidi Yahia Aarab (377 m)

*Hercostomus discriminatus* Parent, 1925

Parent 1925, **Rif**, “Favier, Environs de Tanger”; Parent 1927, **Rif**, Tanger; Vaillant 1950, **Rif**, Tanger

*Hercostomus exarticulatus* (Loew, 1857)

Vaillant 1956b, **HA**, Lac Tamhda (Anremer), Aguelmous; Grichanov et al. 2020a

*Hercostomus excipiens* Becker, 1907

Parent 1924, **Rif**, Tétouan; Parent 1927; Séguy 1930a, **Rif**, Oued Judios (Tanger); Nourti et al. 2019a, **Rif**, Talembote (440 m)

*Hercostomus germanus* (Wiedemann, 1817)

Parent 1924, **Rif**, Cap Spartel; Parent 1927; Kettani and Negrobov 2016, **Rif**, Chefchaouen, Ketama – MISR (**Rif**, Ketama)

*Hercostomus longiventris* (Loew, 1857)

Vaillant 1956b, **HA**, Lac Tamhda (Anremer), Izourar

***Muscidideicus* Becker, 1917***Muscidideicus praetextatus* (Haliday, 1855)

Grichanov 2019, **AP**, Oualidia lagune

***Ortochile* Berthold, 1827***Ortochile morenae* (Strobl, 1899)

= *Hercostomus morenae* (Strobl, 1899), in Becker 1917: 225; Nourti et al. 2019a: 124  
 Grichanov and Nourti 2021; Nourti et al. 2019a, **Rif**, Mnezla (74 m), Talassem-  
 tane (980 m), Oued Ametrasse (841 m), estuary Tahaddart (dune marshland, 0 m)

*Ortochile nigrocaerulea* Latreille, 1779

Parent 1924, **Rif**, Tanger, Cap Spartel, Tétouan, Béni Hozmar; Parent 1927,  
**Rif**, Tanger; Séguy 1930a, **Rif**, Oued Judios (Tanger); Grichanov 2009, **Rif**,  
 Ouezzane (300 m); Nourti et al. 2019a, **Rif**, Douar El Hamma (338 m), Triwa  
 Bni Hassane (654 m), Taida (501 m)

***Platyopsis* Parent, 1929***Platyopsis maroccanus* (Parent, 1929)

Parent 1929b, **Rif**, Tanger; Vaillant 1950, **Rif**, Tanger

***Poecilobothrus* Mik, 1878***Poecilobothrus appendiculatus* (Loew, 1859)

= *Hercostomus appendiculatus* (Loew): Ebejer et al. 2019: 146  
 Parent 1924, **Rif**, Tanger, Cap Spartel; Ebejer et al. 2019, **Rif**, Oued Nakhla  
 (200 m), Moulay Abdelsalam (965 m), Dardara (730 m), Cap Spartel (155 m);  
 Nourti et al. 2019a, **Rif**, Perdicaris Park (223 m)

*Poecilobothrus infuscatus* (Stannius, 1831)

Ebejer et al. 2019, **Rif**, Tahaddart (2 m); **Rif** (Tahaddart) – MISR

***Sybistroma* Meigen, 1824***Sybistroma dufouri* Macquart, 1838

= *Haltericerus spathulatus* Loew, in Becker and Stein 1913: 86  
 Becker and Stein 1913, **Rif**, Tanger

*Sybistroma obscurellum* Fallén, 1823<sup>20</sup>

= *Hypophyllus obscurellus* Fallén, in Dakki 1997: 61  
 Dakki 1997 (no material provided)

*Sybistroma quadrifilatum* (Strobl, 1899)

= *Sybistroma parvulum* (Parent, 1927), in Grichanov and Nourti 2021: 190  
 Grichanov and Nourti 2021, **Rif**, Fahs Anjra (372 m)

*Sybistroma theodori* Grichanov & Nourti, 2021

Grichanov and Nourti 2021, **Rif**, Moulay Abdelsalam (649 m)

***Tachytrechus* Haliday, 1851***Tachytrechus consobrinus* (Haliday, 1851)<sup>20</sup>

Parent 1938 (no material provided)

*Tachytrechus goudoti* (Macquart, 1842)

= *Dolichopus goudoti* Macquart, 1842

Macquart 1842, **Rif**, Tanger; Parent 1926 (redescription), 1927

*Tachytrechus insignis* (Stannius, 1831)

Parent 1927, “Maroc”; Séguy 1930a, **Rif**, Tanger, **HA**, Aguerd el Had, Talek-  
 jount (1000–1100 m); Vaillant 1956b, **HA**, Lac Tamhda (Anremmer); Popescu-  
 Mirceni 2011, **AP**, Merja Zerga; Grichanov 2019, **AP**, Essaouira

*Tachytrechus notatus* (Stannius, 1831)

Vaillant 1950 (no material provided), 1956b, **HA**, Lac Tamhda (Anremmer);  
Grichanov 2009, **AA**, 15 km SW Tazenakht; Dawah et al. 2020

*Tachytrechus planitarsis* Becker, 1907

Vaillant 1950, **HA**, Touggourt; Grichanov 2009, **AA**, 15 km SW Tazenakht;  
Grichanov 2019, **AA**, Ouarzazate (1100 m)

## Hydrophorinae

***Anahydrophorus* Becker, 1917***Anahydrophorus cinereus* (Fabricius, 1805)

= *Scatophaga cinerea* Fabricius, 1805: 205

Fabricius 1805, **AP**, Mogador (Essaouira); Séguy 1930a, **Rif**, Tanger; Vaillant 1955a, **AP**, Temara, Port-Lyautey; Boumezzough and Vaillant 1986a, **AP**, beach of Rabat; Kettani and Negrobov 2016, **AP**, Skhirat; **AP** (Skhirat) – MISR

***Aphrosylus* Haliday, 1851***Aphrosylus maroccanus* Vaillant, 1955

Vaillant 1955a, **AP**, Port Lyautey

*Aphrosylus mitis* Verrall, 1912

Grichanov 2019, **AP**, Oualidia lagune

*Aphrosylus raptor luteipes* Parent, 1929

Parent 1929b, **AP**, Mogador (as a variation of *Aphrosylus raptor* Haliday, 1851);  
Vaillant 1955a; Negrobov, 1979 (as a subspecies of *Aphrosylus raptor* Haliday, 1851); Kettani and Negrobov 2016 (as *Aphrosylus raptor* Haliday, 1851);  
Grichanov 2019, **AP**, Oualidia lagune

*Aphrosylus temaranus* Vaillant, 1955

Vaillant 1955a, **AP**, Temara; Grichanov 2019, **AP**, Oualidia lagune

*Aphrosylus venator* Loew, 1857

Parent 1927, **Rif**, Tanger; Séguy 1930a, **Rif**, Tanger

***Epithalassius* Mik, 1891***Epithalassius corsicanus* Becker, 1910

Pârvu 2008, **AP**, Merja Zergha, Cap Sim, Essaouira

***Hydrophoprus* Fallén, 1823***Hydrophorus balticus* (Meigen, 1824)

Vaillant 1956b, **HA**, Jebel Toubkal, Lac Tamhda (Anremmer), Oukaïmeden, Izourar; Boumezzough and Vaillant 1986a, **HA**, Jebel Toubkal (3100 m);  
Grichanov 2019, **HA**, Aguelmouss (2050 m), Oukaïmeden (2600 m); Nourti et al. 2019a, **MA**, Mont Habri (2071 m)

*Hydrophorus nilicola* Parent, 1927

= *Hydrophorus viridis nilicola* Parent, in Boumezzough and Vaillant 1986a: 297  
Boumezzough and Vaillant 1986a, **MA**, Tizi-n'Imdrhas (1800 m), **HA**, Oued N'fis (650 m), **AA**, near Agadir N'oussbai (400 m); Grichanov 2019, **AP**, Essaouira

*Hydrophorus oceanus* (Macquart, 1838)

= *Hydrophorus bisetus* Loew, 1857, in Parent 1927, Séguy 1930a, Grichanov 2019  
Parent 1927, **AP**, Rabat; Séguy 1930a, **Rif**, Tandja el Balia (Tanger) (*Hydrophorus bisetus* Loew); Vaillant 1955a, **AP**, Port-Lyautey; Boumezzough and Vaillant 1986a, **AP**, beach of Rabat

*Hydrophorus praecox* (Lehmann, 1822)

Parent 1924, **Rif**, Cap Spartel, de Tanger à Tétouan, Rincón de Medik, Dar Riffien (Ceuta); Parent 1927; Séguy 1941a, **HA**, Toubkal (2500 m); Boumezzough and Vaillant 1986a, **HA**, Lac Tamhda, Lac Tamdhanit (Massif Anremer, 2900 m), Lac Izourar (Massif Azourki, 2650 m)

*Hydrophorus viridis* (Meigen, 1824)<sup>21</sup>

Parent 1927, **AP**, Rabat; Boumezzough and Vaillant 1986a: 297

***Liancalus* Loew, 1857**

*Liancalus virens* (Scopoli, 1763)

Vaillant 1956b, **HA**, Toubkal, Assif Tassouat (M'Goum), Aguelmous, Sidi Chamarouch, Imi-N'Ifri; Boumezzough and Vaillant 1986a, **HA**, Tahanaout (750 m), Adrar Anremer (2900 m), **AA**, Jebel Siroua (3000 m); Kettani and Negrobov 2016, **AP**, S-Tifni; Nourti et al. 2019a, **Rif**, Amsemlil env. (1059 m) – MISR (**AP**, S Tifni)

***Machaerium* Haliday, 1832**

*Machaerium maritimae* Haliday, 1832

Parent 1927, **Rif**, Tanger; Séguy 1930a, **Rif**, Tanger; Kettani and Negrobov 2016, **AP**, Oued Bou-Regreg; Grichanov 2019, **AP**, Oualidia lagune; **AP** (Oued Bou-Regreg) – MISR

***Orthoceratium* Schrank, 1803**

*Orthoceratium sabulosum* (Becker, 1907)

= *Orthoceratium lacustre* (Scopoli, 1763)<sup>22</sup>, in Ebejer et al. 2019: 146  
Ebejer et al. 2019, **Rif**, Jebel Lakraâ (Talassemiane, 1541 m)

***Thinophilus* Wahlberg, 1844**

*Thinophilus (Thinophilus) flavipalpis* (Zetterstedt, 1843)

Pârvu et al. 2006, **AA**, Lac Edehby, Ouarzazate; Grichanov 2009, **AP**, 40 km S Larache (0–20 m)

*Thinophilus (Thinophilus) indigenus* Becker, 1902

Ebejer et al. 2019, **AA**, 14 km E of Rich (Errachidia, 1278 m), Oued Laou (2 m); Grichanov 2019, **AA**, Ouarzazate (572 m)

21 *Hydrophorus viridis* may be a misidentification from Boumezzough and Vaillant (1986a) as this species is doubtfully present in North Africa. It does not reach Iberia in the west or Greece in the east.

22 Pollet and Stark (2018) have changed the species concept of *Orthoceratium lacustre* (Scopoli, 1763). As a result, all previous records of the species from Atlantic countries and almost all records from Africa (except for a female record from Tunisia) have been assigned to *O. sabulosum* (Becker, 1907). The Moroccan material also belongs to the latter species (Martin Ebejer, pers. comm.).



*Thinophilus* (*Thinophilus*) *mirandus* Becker, 1907

Negrobov 1971, **Rif**, Tanger; Grichanov 2019, **AA**, Ouarzazate (572 m)

*Thinophilus* (*Schoenophilus*) *versutus* Haliday, 1851

= *Schoenophilus versutus* (Haliday, 1851), in Parent 1924, 1927

Parent 1924, **Rif**, Cap Spartel, Tétouan; Parent 1927; Pârvu et al. 2006, **AP**, Merja Zerga; Nourti et al. 2019a, **Rif**, Oued Souk Lhad (613 m), Dayat Tazia (733 m)

## Medeterinae

### ***Medetera* Fisher, 1819**

*Medetera diadema* (Linnaeus, 1767)

= *Medeterus* (cf. *diadema*), in Séguy 1953a: 84

Parent 1938 (no material provided); Séguy 1953a, **AP**, Rabat; Nourti et al. 2019a, **Rif**, Kitane (49 m), **Rif**, plage Stihat (beach)

*Medetera media* Parent, 1925

Nourti et al. 2019a, **Rif**, Faculty of Sciences of Tétouan (garden: on trunk of olive tree, 14 m)

*Medetera micacea* Loew, 1857

Ebejer et al. 2019, **Rif**, Dardara (730 m); Nourti et al. 2019a, **Rif**, Issaguen (1547 m),  
**HA**, Lac Tislit (Imilchil, 2254 m)

*Medetera pallipes* (Zetterstedt, 1843)<sup>23</sup>

Nourti et al. 2019a, **Rif**, Douar El Hamma (338 m)

*Medetera petrophila* Kowarz, 1877<sup>20</sup>

Parent 1938 (no material provided)

*Medetera petrophiloides* Parent, 1925

Nourti et al. 2019a, **Rif**, Issaguen (1547 m)

*Medetera* aff. *roghii* Rampini & Canzoneri, 1979

Nourti et al. 2019a, **Rif**, Douar El Hamma (338 m)

*Medetera truncorum* Meigen, 1824<sup>24</sup>

Ebejer et al. 2019a, **Rif**, Dardara (484 m)

*Medetera varvara* Grichanov & Vikhrev, 2009

Grichanov and Vikhrev 2009, **AP**, Essaouira

<sup>23</sup> Morocco was most probably erroneously included into the distribution section for *Medetera flavipes* Meigen, 1824 and *Medetera pallipes* (Zetterstedt, 1843) in some papers (e.g. Kazerani et al. 2014). *M. pallipes* was recorded in the country by Nourti et al. (2019a). *M. flavipes* is not included in the present Catalog.

<sup>24</sup> *Medetera truncorum* Meigen, 1824 was identified by a female only (Ebejer et al. 2019). However, *Medetera truncorum* is a group of closely related species present in the Mediterranean that can be identified only by fine structures of the male hypopygium (Negrobov and Naglis 2016). Its presence in Morocco must be confirmed.

***Thrypticus* Gerstäcker, 1864***Thrypticus bellus* Loew, 1869

Séguy 1930a, **EM**, Dayat Sidi Kacem; Nourti et al. 2019a, **Rif**, Amsemlil env. (1067 m), estuary Oued Tahaddart (0 m), Barrage 9 Avril, plage Stihat (0 m)

## Microphorinae

***Schistostoma* Becker, 1902***Schistostoma eremita* Becker, 1902

Ebejer et al. 2019, **AA**, Ziz river (12 km S of Rissani, 737 m), Lac Tiffert (4 km W of Merzouga, 702 m)

## Neurigoninae

***Neurigona* Rondani, 1856***Neurigona solodovnikovi* Grichanov, 2010

= *Neurigona punctifera* Becker, 1907, in Kettani and Negrobov 2016 (misidentification) Grichanov 2010, **AP**, 40 km S Larache; Kettani and Negrobov 2016, **Rif**, Aïn Tissemlal (Azilane, 1255 m); Nourti et al. 2019a, **Rif**, Perdicaris Park (223 m), Taria Bni Faghloum (894 m), Chrafate (832 m)

## Parathalassiinae

***Microphorella* Becker, 1909***Microphorella ulrichi* Gatt, 2003

Gatt 2003, **Rif**, Tanger, Oued Armal (Ksar Sghir)

***Parathalassius* Mik, 1891***Parathalassius blasigii* Mik, 1891

Ebejer et al. 2019, **AP**, Larache (5 m)

## Peloropeodinae

***Chrysotimus* Loew, 1857***Chrysotimus molliculoides* Parent, 1937

Parent 1937a, **MA**, Ifrane (1600 m); Parent 1937b; Nourti et al. 2019a, **Rif**, Dayat Tazia (733 m)

***Micromorphus* Mik, 1878***Micromorphus albipes* (Zetterstedt, 1843)

Parent 1924, **Rif**, Béni Hozmar (Tétouan); Parent 1927, **Rif**, Tétouan; Kechev and Ivanova 2015; Nourti et al. 2019a, **Rif**, Oued Souk Lhad (613 m), estuary Oued Tahaddart (0 m), Barrage 9 Avril, Kharouba, plage Stihat (0 m), Aïn Jdioui, **EM**, Bouanane (Figuig, 855 m), **AA**, Boudnib (951 m); Dawah et al. 2020

*Micromorphus minusculus* Negrobov, 2000

Nourti et al. 2019a, **EM**, Bouanane (Figuig, 855 m), **AA**, Taliouine (Taroudant, 1014 m); Grichanov 2019, **AA**, Ouarzazate

## Rhaphiinae

### ***Rhaphium* Meigen, 1803**

*Rhaphium appendiculatum* Zetterstedt, 1849<sup>20</sup>

= *Rhaphium macrocerum* (Parent, 1925), in Parent 1938, Grichanov 2019  
Parent 1938 (no material provided)

*Rhaphium brevicorne* Curtis, 1835

= *Xiphandrium pectinatum* Becker, in Vaillant 1956b: 112, Grichanov 2019  
Vaillant 1956b, **AP**, Rabat, **HA**, Oukaïmeden; Kettani and Negrobov 2016, **AP**, Rabat; Grichanov 2019, **HA**, Oukaïmeden (1000 m); Nourti et al. 2019a, **Rif**, Pont de Dieu (Akchour, 536 m), Dayat Tazia (733 m), Moulay Abdelsalam (1177 m); **AP** (Rabat) – MISR

*Rhaphium caliginosum* Meigen, 1824

= *Raphium lanceolatum* Loew, 1850, in Kazerani et al. 2013  
Parent 1924, **Rif**, Cap Spartel; Kazerani et al. 2013 (no material provided); Kechev 2017; Nourti et al. 2019a, **Rif**, Amsemlil env. (1067 m), Dbani (Bni Selmane, 1046 m)

*Rhaphium fascipes* (Meigen, 1824)

= *Porphyrops fascipes* Meigen, 1824, in Parent 1927  
Parent 1927, **Rif**, Tétouan

*Rhaphium fissum* Loew, 1850

Grichanov 2009, **AA**, Tizi-n'Test pass (2100 m)

## Sciapodinae

### ***Sciapus* Zeller, 1842**

*Sciapus adumbratus* Becker, 1902

Grichanov and Negrobov 2014, **AP**, near Essaouira, **AA**, Oued Souss, near Ouarzazate (1100 m)

*Sciapus costae* (Mik, 1890)

Negrobov 1991 (no material provided); Ebejer et al. 2019, **Rif**, Oued Laou (30 m)

*Sciapus euzonus* (Loew, 1859)

= *Psilopus euzonus* Loew, in Dakki 1997: 62  
Parent 1927, **Rif**, El Mahadi; Séguy 1930a, **Rif**, Tanger; Séguy 1941d, **AA**, Taroudant

*Sciapus glaucescens* (Loew, 1856)

Grichanov and Negrobov 2014, **AP**, Oualidia

*Sciapus heteropygus* Parent, 1926

Nourti et al. 2019c, **Rif**, Talassemtane National Park (1696 m)

*Sciapus holoxanthos* Parent, 1926

Nourti et al. 2019c, **Rif**, Jbel Bouhachem, Adrou (556 m), Talassemtane National Park (1696 m)

*Sciapus laetus* (Meigen, 1838)

Grichanov 2009, **AA**, 40 km S Larache (0–20 m); Ebejer et al. 2019, **Rif**, Martil (9 m)

*Sciapus longulus* (Fallén, 1823)<sup>25</sup>

Pârvu et al. 2006, **AP**, Merja Zerga

*Sciapus* aff. *negrobovi* Naglis & Barták, 2015

Nourti et al. 2019a, **Rif**, plage Stihat (0 m), Kitane (49 m) (as *Sciapus* aff. *negrobovi*); Nourti et al. 2019c

## Symptecinae

***Campsicnemus* Haliday in Walker, 1851***Campsicnemus crinitarsis* Strobl, 1906

Dakki 1997 (no material provided); Grichanov 2012, **AP**, Essaouira; Kettani and Negrobov 2016, **Rif**, Oued Amsa

*Campsicnemus curvipes* (Fallén, 1823)<sup>26</sup>

Frey 1936 (no material provided)

*Campsicnemus filipes* Loew, 1859

Grichanov 2009, **AA**, 40 km S Larache (0–20 m)

*Campsicnemus loripes* (Haliday, 1832)

Ebejer et al. 2019, **Rif**, Moulay Abdelsalam (965 m)

*Campsicnemus magius* (Loew, 1845)

Pârvu et al. 2006, **AA**, Lac Edehby, Ouarzazate; Grichanov 2019, **AP**, Essaouira

*Campsicnemus simplicissimus* Strobl, 1906

Nourti et al. 2019a, **Rif**, plage Stihat (0 m)

***Sympycnus* Loew, 1857***Sympycnus pulicarius* (Fallén, 1823)

Nourti et al. 2019a, **HA**, Aïn Taferout (Sidi Masali, 1237 m)

***Syntormon* Loew, 1857***Syntormon aulicus* Meigen, 1824

= *Eutarsus aulicus* Meigen, in Parent 1924, 1927; Séguy 1930a: 125

Parent 1927, **Rif**, Tanger; Séguy 1930a, **Rif**, Tanger; Vaillant 1952, 1956b, **HA**, Imi-N'Ifri

<sup>25</sup> *Sciapus longulus* (Fallén, 1823) was identified by females only (Pârvu et al. 2006). Its presence in Morocco must be confirmed, as in most species in this genus from the Mediterranean they can only be distinguished by males (Grichanov and Negrobov 2014).

<sup>26</sup> *Campsicnemus curvipes* (Fallén, 1823) was recorded by Parent (1924) from Algeciras (Spain) and mentioned by Parent (1927) as collected from “Morocco: Algésiras”. *Argyra grata* Loew, 1857 was recorded by Parent (1927) from Algeria. These species may occur in Morocco.

*Syntormon codinai* Parent, 1924

Parent 1924, **Rif**, Cap Spartel, Tanger; Parent, 1927, **Rif**, Tanger

*Syntormon denticulatus* (Zetterstedt, 1843)

= *Syntormon pumilus* Parent, 1925 (nec Meigen, 1824; misidentification), in Pârvu et al. 2006, Grichanov 2019

Parent 1924, **Rif**, Tétouan; Parent 1927, **Rif**, Tétouan; Séguy 1930a, **Rif**, Tanger; Pârvu et al. 2006, **AA**, Lac Edehby, Ouarzazate; Nourti et al. 2019a, **Rif**, plage Stihat (0 m), Amlay (294 m), Koudiat Taifour (100 m), Amsemlil env. (1067 m), Dayat Tazia (733 m), Oued Souk Lhad (613 m), **HA**, Aïn Taferaout (Sidi Masali, 1237 m), **AA**, Taliouine (1014 m)

*Syntormon mikii* Strobl, 1899

Parent 1927, “Maroc”; Kechev and Ivanova 2015; Nourti et al. 2019a, **Rif**, Pont de Dieu (Akchour, 536 m), Moulay Abdelsalam (1177 m)

*Syntormon monilis* (Haliday, 1851)

Parent 1924, **Rif**, Cap Spartel; Parent 1927, **Rif**, Cap Spartel

*Syntormon pallipes* (Fabricius, 1794)

Parent 1924, **Rif**, Cap Spartel, Tétouan, Chefchaouen; Parent 1927, **Rif**, Cap Spartel; Nourti et al. 2019a, **Rif**, Oued Souk Lhad (613 m), Talassemiane (339 m), Perdicas Park (223 m), Amsemlil env. (1067 m); Dawah et al. 2020

*Syntormon pilitibia* Grichanov, 2013

Nourti et al. 2019a, **Rif**, Amsemlil (PNPB, 1067 m)

*Syntormon pumilus* (Meigen, 1824)

= *Syntormon rufipes* auctt. (nec Meigen, 1824; misidentification), in Pârvu et al. 2006; Grichanov 2019

Pârvu et al. 2006, **AA**, Lac Edehby, Ouarzazate

*Syntormon zelleri* (Loew, 1850)

Vaillant 1956b, **HA**, Oukaïmeden, Izourar; Pârvu et al. 2006, **AP**, Merja Zerga; Nourti et al. 2019a, **Rif**, Pont de Dieu (Akchour, 536 m), Amsemlil env. (1059–1067 m)

***Teuchophorus* Loew, 1857***Teuchophorus cristulatus* Mueffels & Grootaert, 1990

Ebejer et al. 2019, **AA**, 14 km E of Rich (Errachidia, 1278 m)

*Teuchophorus rifensis* Nourti, Grichanov & Kettani, 2019

Nourti et al. 2019b, **Rif**, Oued Souk Lhad (613 m)

*Teuchophorus spinigerellus* (Zetterstedt, 1843)

Pârvu et al. 2006, **AA**, Lac Edehby, Ouarzazate

## Xanthochlorinae

***Xanthochlorus* Loew, 1857***Xanthochlorus tenellus* (Wiedemann, 1817)

Grichanov 2009, **AA**, 40 km S Larache (0–20 m); Ebejer et al. 2019, **Rif**, Moulay Abdelsalam (1180 m)

**HYBOTIDAE**

K. Kettani, P. Gatt

Number of species: **44**. Expected: 120

Faunistic knowledge of the family in Morocco: poor

Ocydromiinae

Bicellariini

***Bicellaria* Macquart, 1823**

*Bicellaria spuria* Fallén, 1816

Becker and Stein 1913, **Rif**, Tanger

Ocydromiini

***Ocydromia* Meigen, 1820**

*Ocydromia glabricula* (Fallén, 1816)

Becker and Stein 1913, **Rif**, Tanger

***Oropezella* Collin, 1926**

*Oropezella sphenoptera* (Loew, 1873)

Cassar et al. 2005, **Rif**, lagoon Smir

Tachydromiinae

Drapetini

***Chersodromia* Haliday in Walker, 1851**

*Chersodromia albopilosa* Chvála, 1970

Cassar et al. 2008, **Rif**, Basin Laou

*Chersodromia nigrosetosa* Chvála, 1970

Chvála 1981 (Ceuta); Chvála and Kovalev 1989

*Chersodromia pseudohirta* Chvála, 1970

Ebejer et al. 2019, **Rif**, Kabila beach

***Crossopalpus* Bigot, 1857**

*Crossopalpus aeneus* (Walker, 1871)<sup>27</sup>

Shamshev et al. 2005, **HA**, Marrakech, Ouirgane

*Crossopalpus dilutipes* (Strobl, 1906)

Ebejer et al. 2019, **AP**, 9 km SE of Aïn Chouk (Lower Loukous marsh, 6 m)

---

27 *Crossopalpus aenescens* (Wiedemann, 1830) was recorded by Séguy (1941d: 12) under the name of *Drapetis aenescens*, confusing it with *C. aeneus*. These two species have often been confused by authors. This is a misidentification, as *C. aenescens* is an Afrotropical species.

*Crossopalpus nigritellus* (Zetterstedt, 1842)

Ebejer et al. 2019, **Rif**, Talassemthane (maison forestière), Issaguen (1620 m)

*Crossopalpus setiger* (Loew, 1859)

Ebejer et al. 2019 **Rif**, Smir lagoon

***Drapetis* Meigen, 1822**

*Drapetis disparilis* Frey, 1936

Chvála 1981 (Ceuta); Chvála and Kovalev 1989

*Drapetis laevis* Becker, 1914

Becker and Stein 1913, **Rif**, Tanger; Kovalev 1970; Chvála and Kovalev 1989

***Elaphropeza* Macquart, 1827**

*Elaphropeza boergei* Chvála, 1971

Ebejer et al. 2019, **Rif**, Smir lagoon, Oued Laou (saltmarsh)

*Elaphropeza hutsoni* Smith, 1967

Ebejer et al. 2019, **Rif**, Jnane Niche (46 m)

***Stilpon* Loew, 1859**

*Stilpon demnatensis* Vaillant, 1956<sup>28</sup>

Vaillant 1956b: 244, **HA**, Imi-N'Ifri

*Stilpon moroccensis* Grootaert & Zouhair, 2021

Grootaert et al. 2021, **Rif**, beach of Stehat, Bab Tariouant, Amsemlil, **EM**, Bouanane

*Stilpon subnubilus* Chvála, 1988

Ebejer et al. 2019, **Rif**, Smir lagoon, M'Diq (Kabila beach and dunes), Martil (beach and dunes)

Tachydromiini

***Platypalpus* Macquart, 1827**

*Platypalpus alluaudi* Grootaert & Chvála, 1992

Grootaert and Chvála 1992, **HA**, Chichaoua; Vaňhara and Rozkošný 1997

*Platypalpus anomalicerus* (Becker, 1902)

= *Coryneta aerivaga* Séguy, in Séguy 1941d: 11

Séguy 1941d, **EM**, Oued Guir, **AA**, Agadir; Grootaert and Chvála 1992, **EM**, Oued Guir, **AA**, Agadir

*Platypalpus annulatus* (Fallén, 1815)

Pârvu et al. 2006, **AP**, Merja Zerga; Popescu-Mirceni 2011

*Platypalpus anomalitarsis* Chvála & Kovalev, 1974

Ebejer et al. 2019, **MA**, 10 km S of Azrou (1775 m), 10 km S of Azrou (1720 m), **AA**, Ziz river (30 km N of Erfoud, 894 m)

*Platypalpus approximatus* (Becker, 1902)

Grootaert and Chvála 1992, **AP**, Casablanca

---

<sup>28</sup> *Stilpon demnatensis* Vaillant, 1956 was indicated as a *nomen nudum* by Cumming and Cooper (1992).



- Platypalpus asniensis* Grootaert & Chvála, 1992  
Grootaert and Chvála 1992, **HA**, Asni; Vaňhara and Rozkošný 1997
- Platypalpus calceatus* (Meigen, 1822)  
Pârvu et al. 2006, **MA**, Meknès, **AA**, Foum Zghouig
- Platypalpus chillcotti* Chvála, 1981  
Grootaert and Chvála 1992, **MA**, Ifrane
- Platypalpus chrysonotus* (Strobl, 1899)  
Ebejer et al. 2019, **Rif**, Oued Laou (saltmarsh)
- Platypalpus desertorum* (Becker, 1907)  
Ebejer et al. 2019, **AA**, 14 km E of Rich (Errachidia, 1278 m)
- Platypalpus distichus* Grootaert & Chvála, 1992  
Ebejer et al. 2019, **AP**, 9 km SE of Aïn Chouk (Lower Loukous marsh, 6 m),  
**AA**, Ziz river (10 km S of Errachidia, 1008 m)
- Platypalpus flavicornis* (Meigen, 1822)  
Ebejer et al. 2019, **AA**, 2 km N of Erfoud (818 m), Ziz river (30 km N of Erfoud, 894 m)
- Platypalpus longicauda* Grootaert & Chvála, 1992  
Ebejer et al. 2019, **Rif**, Smir lagoon
- Platypalpus lyneborgi* Chvála, 1981  
Grootaert and Chvála 1992, **AP**, Dradek, **MA**, Azrou
- Platypalpus nigratarsis* (Fallén, 1816)  
Pârvu et al. 2006, **MA**, Ifrane; Popescu-Mirceni 2011
- Platypalpus obscuripes* (Strobl, 1899)  
Ebejer et al. 2019, **Rif**, Martil (9 m), **AP**, Larache (Loukous marsh, 2 m)
- Platypalpus ostiorum* (Becker, 1902)  
Grootaert and Chvála 1992
- Platypalpus pachycerus* (Collin, 1949)  
Ebejer et al. 2019, **AA**, Ziz river (10 km S of Errachidia, 1008 m)
- Platypalpus pallidiventris* (Meigen, 1822)  
Grootaert and Chvála 1992, **MA**, Ifrane; Maarouf 2003, **HA**, Chaouia
- Platypalpus pseudoexiguus* (Strobl, 1909)  
Ebejer et al. 2019, **Rif**, Oued Laou (saltmarsh)
- Platypalpus pseudounguiculatus* (Strobl, 1909)  
= *Tachydromia pseudounguiculata* Strobl 1909  
Grootaert and Chvála 1992
- Platypalpus riojaensis* Chvála, 1981  
Grootaert and Chvála 1992, **EM**, Oujda, **MA**, Meknès, **HA**, Chichaoua
- Platypalpus turgidus* (Becker, 1907)  
Grootaert and Chvála 1992, **MA**, Takkat-n- Sountat
- Platypalpus vockerothi* Chvála, 1981  
Grootaert and Chvála 1992, **HA**, Asni

***Tachydromia* Meigen, 1803***Tachydromia arrogans* (Linnaeus, 1761)Ebejer et al. 2019, **Rif**, Oued Laou, El-Fahsa (maquis)*Tachydromia annulimana* Meigen, 1822<sup>29</sup>= *Tachista annulimana* Meigen, in Becker and Stein 1913: 84Becker and Stein 1913, **Rif**, Tanger*Tachydromia undulata* (Strobl, 1906)

Chvála 1969

**Platypezoidea****PHORIDAE**

K. Kettani, H. Disney

Number of species: **3**. Expected: >400

Faunistic knowledge of the family in Morocco: very poor

***Diplonevra* Lioy, 1864***Diplonerva crassicornis* (Meigen, 1830)= *Phora crassicornis* Meigen, in Meigen 1830: 220= *Dohrniphora dudai* Schmitz, in Schmitz 1920: 100Raclin 1957; Mouna 1998; **AP** (Rabat) – MISR*Diplonevra tangeriana* (Becker, 1913)<sup>30</sup>= *Phora tangeriana* Becker and Stein, in Becker and Stein 1913: 90; Schmitz 1949: 238 (*Species incerta*)Becker and Stein 1913, **Rif**, Tanger; Schmitz 1949***Megaselia* Rondani, 1856***Megaselia minor* (Zetterstedt, 1848)= *Trineura minor* Zetterstedt, in Zetterstedt 1848: 2864; Wood 1912: 167= *Aphiochaeta angustifrons* Wood, in Wood 1912: 167; Disney 1984: 239= *Phora minor* Shob, in Mouna 1998: 86Zetterstedt 1848; Wood 1912; Disney 1984; Mouna 1998; **AP** (Rabat) – MISR

29 Becker and Stein's record of *Tachydromia annulimana* is retained, but is considered doubtful as *annulimana* is a European species. The record could equally refer to *T. umbrarum* Haliday, 1833 another European species which has often been misidentified as *annulimana* by authors.

30 *Diplonevra tangeriana* (Becker, 1913) was recorded from Morocco, but fresh specimens are required to ascertain its identity.

**PLATYPEZIDAE**

K. Kettani, M.J. Ebejer

Number of species: **3**. Expected: 6

Faunistic knowledge of the family in Morocco: poor

Platypezinae

***Lindneromyia* Meigen, 1804**

*Lindneromyia dorsalis* (Meigen, 1804)

Chandler 2001, **Rif**, Chefchaouen (600 m), **AP**, Rabat, Maâmora; Tkoč and Roháček 2014; **AP** (Maâmora) – MISR

***Microsania* Zetterstedt, 1837**

*Microsania raclinae* Collart<sup>31</sup>

Mouna 1998: 86

***Protoclythia* Kessel, 1949**

*Protoclythia rufa* (Meigen, 1830)

Ebejer et al. 2019, **Rif**, Tahaddart (1 m)

**LONCHOPTERIDAE**

K. Kettani, M. Barták

Number of species: **4**. Expected: 5

Faunistic knowledge of the family in Morocco: moderate

Lonchopterinae

***Lonchoptera* Meigen, 1803**

*Lonchoptera bifurcata* (Fallén, 1810)

= *Dispa furcata* Fallén, in Vaillant 1989: 217

= *Muscidora furcata* Fallén, in Mouna 1998: 86

Vaillant 1989; Mouna 1998

*Lonchoptera fallax* De Meijere, 1906

= *Muscidora fallax* Meigen, in Mouna 1998: 86

Mouna 1998

*Lonchoptera lutea* Panzer, 1809

= *Muscidora lutea* Panzer, in Mouna 1998: 86

---

<sup>31</sup> *Microsania raclinae* Collart is listed in Mouna 1998, but *raclinae* is a nomen nudum and the material upon which this citation was given is unknown to us. It cannot be determined whether or not the error is with the species name itself while the genus *Microsania* is actually represented in Morocco.

Vaillant 1989, **HA** (>3000 m); Mouna 1998; Pârvu et al. 2006, **MA**, Ifrane;  
 Popescu-Mirceni 2011; **MA** – MISR  
*Lonchoptera tristis* Meigen, 1824  
 = *Muscidora tristis* Meigen, in Mouna 1998: 86  
 Mouna 1998

## Syrphoidea

### PIPUNCULIDAE

K. Kettani, M.J. Ebejer  
 Number of species: **16**. Expected: 50  
 Faunistic knowledge of the family in Morocco: poor

#### Chalarinae

##### *Chalarus* Walker, 1834

*Chalarus brevicaudis* Jervis, 1992  
 Ebejer and Kettani 2019b, **Rif**, Dardara (730 m), Azilane (1255 m), El Ham-  
 ma (338 m)  
*Chalarus* sp. aff. *brevicaudis* Jervis, 1992  
 Ebejer and Kettani 2019b, **Rif**, Azilane (1255 m)

#### Pipunculinae

##### Eudorylini

##### *Claraeola* Aczél, 1940

*Claraeola* sp. aff. *halterata* (Meigen, 1838)  
 Ebejer and Kettani 2019b, **Rif**, Akchour (424 m)

##### *Clistoabdominalis* Skevington, 2001

*Clistoabdominalis dilatatus* (De Meyer, 1997)  
 Ebejer and Kettani 2019b, **Rif**, Jebel Talassemtane (1546 m), El Hamma (338 m)

##### *Dasydorylas* Skevington, 2001

*Dasydorylas setosus* (Becker, 1908)  
 Kehlmaier 2005; Motamedinia et al. 2017

##### *Eudorylas* Aczél, 1940

*Eudorylas ibericus* Kehlmaier, 2005  
 Ebejer and Kettani 2019b, **Rif**, Jebel Talassemtane (1546 m)

#### Pipunculini

##### *Pipunculus* Latreille, 1802

*Pipunculus carlestolrai* Kuznetzov, 1993  
 Ebejer and Kettani 2019b, **Rif**, Jebel Talassemtane (1546 m)

## Tomosvaryellini

***Tomosvaryella* Aczél, 1939***Tomosvaryella cilifemorata* (Becker, 1907)Ebejer and Kettani 2019b, **Rif**, Adrou (PNPB, 556 m)*Tomosvaryella debruyni* De Meyer, 1995Ebejer and Kettani 2019b, **Rif**, Adrou (PNPB, 556 m)*Tomosvaryella frontata* (Becker, 1897)Ebejer and Kettani 2019b, **Rif**, Oued Mhajrate (Ben Karrich, 67 m)*Tomosvaryella geniculata* (Meigen, 1824)Ebejer and Kettani 2019b, **HA**, Lac Tislite (Imilchil, 2254 m)*Tomosvaryella kuthyi* Aczél, 1944Ebejer and Kettani 2019b, **Rif**, El Hamma (338 m), Akchour (424 m), Barrage Smir (27 m)*Tomosvaryella minima* (Becker, 1897)Ebejer and Kettani 2019b, **Rif**, Koudiat Taifour (100 m)*Tomosvaryella mutata* (Becker, 1898)Ebejer and Kettani 2019b, **Rif**, Jebel Lakraâ (Talasemtane, 1596 m)*Tomosvaryella trichotibialis* De Meyer, 1995Ebejer and Kettani 2019b, **Rif**, Koudiat Taifour (100 m)*Tomosvaryella* sp. *subvirescens* groupEbejer and Kettani 2019b, **AP**, Loukous marsh (Larache)**SYRPHIDAE**

K. Kettani, M.C.D. Speight

Number of species: **166**. Expected: more than 200

Faunistic knowledge of the family in Morocco: moderate

## Eristalinae

## Brachyopini

***Brachyopa* Meigen, 1822***Brachyopa atlantea* Kassebeer, 2000Kassebeer 2000, **HA**, Ouirgane (1000 m); Speight 2018; Sahib et al. 2020***Chrysogaster* Meigen, 1803***Chrysogaster basalis* Loew, 1857Claußen and Hauser 1990, **MA**, Ifrane (1750 m); Dirickx 1994; Kassebeer 1999d; Sahib et al. 2020***Ighboulomyia* Kassebeer, 1999***Ighboulomyia atlasi* Kassebeer, 1999Kassebeer 1999c, **MA**, Azrou, Umgebung, Timahdit, Ighböula Ulaichuor, Quellteich; Sahib et al. 2020

***Myolepta* Newman, 1838***Myolepta difformis* Strobl in Czerny & Strobl 1909= *Myolepta philonis* Séguy, 1961, in Dirickx 1994: 93Dirickx 1994, **HA**; Reemer et al. 2004, **MA, HA**; Speight 2013, 2018; Sahib et al. 2020***Neoascia* Williston, 1886***Neoascia claussenii* Hauser & Kassebeer, 1998= *Neoascia podagrica* (Fabricius, 1775), in Gil Collado 1929: 40; Claussen 1989b: 373Gil Collado 1929a; Claussen 1989b; Dirickx 1994; Hauser and Kassebeer 1998, **MA, HA**, Taroudant (1800 m); Pârvu et al. 2006, **AP**, Merja Zerga; Popescu-Mirceni 2011; Sahib et al. 2020, **Rif**, Oued Jnane Niche, Oued Maggou***Orthonevra* Macquart, 1829***Orthonevra bouazzai* Kassebeer, 1999Kassebeer 1999d, **MA**; Sahib et al. 2020*Orthonevra brevicornis* (Loew, 1843)<sup>32</sup>Sahib et al. 2020, **Rif**, Aïn Afersiw*Orthonevra elegans* (Meigen, 1822)Becker and Stein 1913, **Rif**; Claussen 1989b; Dirickx 1994; Sahib et al. 2020*Orthonevra schachti* Claussen, 1989bClaussen 1989b, **HA**, Oukaïmeden (2600 m); Dirickx 1994; Schmid 1995; Kassebeer 1999d, **MA**; Sahib et al. 2020***Riponnensia* Maibach, Goeldlin & Speight, 1994***Riponnensia longicornis* (Loew, 1843)= *Orthonevra longicornis* Loew, in Kanervo 1939: 2; Séguy 1961: 23; Kassebeer 1999c: 162Kanervo 1939; Séguy 1961, **AP**; Claussen 1989b; Kassebeer 1999c, **MA, HA**; Dirickx 1994; Dousti and Hayat 2006; Speight 2013, 2018; Sahib et al. 2020*Riponnensia splendens* (Meigen, 1822)= *Chrysogaster splendens* (Meigen), in Gil Collado 1929: 405= *Orthonevra splendens* (Meigen), in Claussen 1989b: 363, 373; Dirickx 1994: 97  
Gil Collado 1929a, **Rif**; Mouna 1998; Claussen 1989b, **HA**, Tizi-n'Test (1900 m); Dirickx 1994; Kassebeer 1999c, **MA**; Sahib et al. 2020, **MA**, Douar Zaouiat Cheikh; **AP** (Dradek) – MISR

## Callicerini

***Callicera* Panzer, 1806***Callicera fagesi* Guérin-Meneville, 1844Kassebeer 1998a, **HA**, Ouirgane (1000 m); Sahib et al. 2020

<sup>32</sup> The range of *Orthonevra brevicornis* does not extend to Iberia. The identification of the single specimen from Morocco was based on a female in Sahib et al. (2020). The status of this species in Morocco needs to be confirmed.

*Callicera rufa* Schummel, 1842

Gil Collado 1929a, **Rif**, Tanger; Claußen 1989b; Dirickx 1994; Sahib et al. 2020

## Ceriodini

### ***Ceriana* Rafinesque, 1815**

*Ceriana conopsoides* (Linnaeus, 1758)

= *Ceriodes conopsoides* Linnaeus, in Séguy 1930a: 131

Séguy 1930a, **MA**, Ras El Ksar; Claußen 1989b; Dirickx 1994; Mouna 1998; Sahib et al. 2020; **AP** (Maghrawa, Maâmora) – MISR

*Ceriana vespiformis* (Latreille, 1804)

= *Ceriodes vespiformis* Latreille, in Becker and Stein 1913: 88; Gil Collado 1929: 414; Séguy 1930a: 131; Kanervo 1939: 5; Leclercq 1961: 242

Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a, **Rif**, **HA**; Séguy 1930a, **AP**, Rabat, Casablanca, **MA**, Tizi-s'Tkrine, Aïn Leuh, Meknès; Kanervo 1939, **MA**; Leclercq 1961a, **Rif**, Melillia, **MA**, Dayat Aoua, Aïn Leuh; Claußen 1989b; Dirickx 1994; Steenis et al. 2016; Speight 2018; El Hawagry and Gilbert 2019; Sahib et al. 2020, **Rif**, 1 km after Dardara, Meadow Mizoghar, Oued Achekrade

### ***Sphiximorpha* Rondani, 1850**

*Sphiximorpha subsessilis* (Illiger in Rossi, 1807)

Steenis et al. 2016

## Eristalini

### ***Anasimyia* Schiner, 1864**

*Anasimyia contracta* Caußen & Torp, 1980

Kassebeer 1998a, **MA**, Timahdit (1850 m); Sahib et al. 2020

### ***Eristalinus* Rondani, 1845**

*Eristalinus aeneus* (Scopoli, 1763)

= *Lumpetia aenea* (Scopoli), in Becker and Stein 1913: 86

= *Eristalis aeneus* (Scopoli), in Gil Collado 1929: 406, 407; Leclercq 1961: 242

= *Lathyrophthalmus aeneus* (Scopoli), in Séguy 1930: 129; Kanervo 1939: 5

Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a, **Rif**, Tanger, **AP**, Mogador; Séguy 1930a, **AP**, Casablanca; Kanervo 1939; Timon-David 1951, **AP**, Rabat; Leclercq 1961a, **EM**, Melilla; Claußen 1989b; Dirickx 1994; Pârvu and Zaharia 2007; Sahib et al. 2020, **Rif**, Jumb Kitane, **HA**, vicinity of Asni

*Eristalinus megacephalus* (Rossi, 1794)

= *Eristalis quinquelineatus* Fabricius, in Becker and Stein 1913: 85, Gil Collado 1929: 407,

= *Lathyrophthalmus quinquelineatus* Fabricius, in Séguy 1930a: 129

Gil Collado 1929a, **Rif**, Tanger; Séguy 1930a, **AP**, Rabat, Oued Korifla, Sidi Bettache; Séguy 1961; Dakki 1997; Claußen 1989b; Dirickx 1994; Dousti and Hayat 2006; Sahib et al. 2020; **AP** (Rabat) – MISR



*Eristalinus sepulchralis* (Linnaeus, 1758)

= *Eristalis sepuleralis* Linnaeus, in Becker and Stein 1913: 85, Gil Collado 1929: 406  
Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a, **AP**, Claußen 1989b,  
**HA**, Ansegmir-Tal W Midelt (1400 m); Dirickx 1994; El Hawagry and Gil-  
bert 2019; Sahib et al. 2020

*Eristalinus taeniops* (Wiedemann, 1818)

= *Eristalis taeniops* Wiedemann, in Becker and Stein 1913: 85

= *Eristalodes taeniops* Wiedemann, in Séguy 1930a: 130

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **AP**, Oued Korifla, Rabat,  
**HA**, Tenfecht (Takeljount); Leclercq 1961a, **MA**, Dayet Aoua; Claußen and  
Hauser 1990, **MA**, Ifrane (1750 m); Dirickx 1994; Dakki 1997; Dousti and  
Hayat 2006; Koçak and Kemal 2010; Speight 2013, 2018; El Hawagry and  
Gilbert 2019; Sahib et al. 2020, **Rif**, Oued Martil, Halouma Kitane, Oued  
Sidi Yahia Aârab, **MA**, bridge Oued Oum-er-Rbia (Douar Ahl Souss), **HA**,  
Lac Oukaïmeden; **AP** (Rabat), **MA** (Volubilis) – MISR

*Eristalis* Latreille, 1804*Eristalis arbustorum* (Linnaeus, 1758)

Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a, **Rif**; Séguy 1930a,  
**MA**, Aïn Leuh, Ras El Ksar, forest of Taffert; Kanervo 1939, **Rif**; Timon-  
David 1951, **AP**, Rabat, **MA**, Ifrane; Claußen 1989b, **MA**, Azrou (1700 m);  
Claußen and Hauser 1990, **MA**, Ifrane (1750 m); Dirickx 1994; Dakki 1997;  
El Hawagry and Gilbert 2019; Sahib et al. 2020, **Rif**, Aïn Sidi Brahim Ben Ar-  
rif, **MA**, vicinity of Ifrane, **HA**, vicinity of Asni, Lac Oukaïmeden, **AA**, Douar  
Issafen, Douar Issafen; **MA**, **HA** – MISR

*Eristalis jugorum* Egger, 1858<sup>33</sup>

Dakki 1997

*Eristalis pertinax* (Scopoli, 1763)

Séguy 1930a, **AP**, Oued Korifla, Sidi Bettache, **MA**, Forêt de Timelilt; Claußen  
1989b; Dirickx 1994; Dakki 1997; Sahib et al. 2020

*Eristalis similis* (Fallén, 1817)

= *Eristalis pratorum* Meigen, in Gil Collado 1929: 407

Gil Collado 1929a, **Rif**; Séguy 1961; Claußen 1989b, **HA**, Oukaïmeden  
(2600 m); Dirickx 1994; Pârvu and Zaharia 2007; Sahib et al. 2020, **Rif**, mai-  
son forestière, **HA**, Douar Zaouiat Cheikh, Lac Oukaïmeden

*Eristalis tenax* (Linnaeus, 1758)

= *Eristalomyia tenax* Linnaeus, in Séguy 1930a: 130; Timon-David 1951: 146

Gil Collado 1929a, **Rif**, **AP**; Kanervo 1939, **MA**; Séguy 1949a, **AA**; Timon-  
David 1951; Leclercq 1961a; Claußen 1989b; Dirickx 1994; Sahib et al. 2020,  
**Rif**, Village Sebt Zinnat, Belyounech, Aïn Takhninjoute, maison forestière,

<sup>33</sup> *Eristalis jugorum* is not known closer to Morocco than the mountains of northern Spain and Turkey. Its occurrence in high mountains in Morocco is possible, but confirmation of the records would be worthwhile.

Jumb Kitane, meadow Fahs Lmhar, **HA**, Douar Zaouiat Cheikh, vicinity of Asni, Lac Oukaimeden

***Helophilus* Meigen, 1822**

*Helophilus trivittatus* (Fabricius, 1805)

Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a; Claußen 1989b; Dirickx 1994; Sahib et al. 2020

***Mallota* Meigen, 1822**

*Mallota cimbiciformis* (Fallén, 1817)

= *Mallota eristoloides* Loew, in Becker and Stein 1913: 85

Becker and Stein 1913, **Rif**, Tange; Claußen 1989b; Dirickx 1994; Sahib et al. 2020

*Mallota dusmeti* Andreu, 1926

Kassebeer 1998a, **HA**, Ouirgane; Sahib et al. 2020

***Melanogaster* Rondani, 1857**

*Melanogaster lindbergi* Kassebeer, 1999

= *Chrysogaster macquardti* Loew, in Becker and Stein 1913: 87

= *Chrysogaster viduata* Meigen, in Kanervo 1939: 2, Séguy 1961: 27, 28

= *Chrysogaster lucida* (Scopoli), in Claußen 1989b: 372

Becker and Stein 1913, **Rif**; Kanervo 1939, **MA**; Séguy 1961; Claußen 1989b; Dirickx 1994; Kassebeer 1999d, **MA**; Popov et al. 2020; Sahib et al. 2020

***Myathropa* Rondani, 1845**

*Myathropa florea* (Linnaeus, 1758)

Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a; Séguy 1930a, **MA**, Aïn Leuh; Claußen 1989b, **MA**, Azrou (1700 m); Claußen and Hauser 1990, **MA**, Ifrane (1750 m); Dirickx 1994; Dakki 1997; Sahib et al. 2020, **Rif**, Oued à 15 km de Fifi

***Parhelophilus* Girschner, 1897**

*Parhelophilus versicolor* (Fabricius, 1794)

= *Helophilus versicolor* (Fabricius), in Gil Collado 1929: 407

Gil Collado 1929a, **AP**, Oulad Mesbah; Claußen 1989b; Dirickx 1994; El Hawagry and Gilbert 2019; Sahib et al. 2020

Eumerini

***Eumerus* Meigen, 1822**

*Eumerus amoenus* Loew, 1848

Séguy 1961; Claußen 1989b; Dirickx 1994; Dousti and Hayat 2006; Speight 2013, 2018; Sahib et al. 2020, **AA**, Douar Aourir, beach of Tamelallt

*Eumerus barbarus* (Coquebert, 1804)

= *Eumerus australis* Meigen, in Gil Collado 1929: 412

Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a, **Rif**; Séguy 1961; Claußen 1989b, **MA**, Azrou (1900 m); Dirickx 1994; Mouna 1998; Speight

- 2013, 2018; Steenis et al. 2017, **AA**, 11 km NW Taliouine, S Aït-Baha, 10 km NE Tafraoute; El Hawagry and Gilbert 2019; Sahib et al. 2020; **AP** (Cap Cantin) – MISR
- Eumerus basalis* Loew, 1848  
= *Eumerus angusticornis* Rondani, in Séguy 1930a: 130  
= *Eumerus basalis* Loew, in Mouna 1998: 86  
Séguy 1930a, **MA**, forest of Timelilt; Claußen 1989b; Dirickx 1994; Mouna 1998; Sahib et al. 2020
- Eumerus caballeroi* Gil Collado, 1929  
Gil Collado 1929a, **AP**, Laguna Gedira; Claußen 1989b; Dirickx 1994; Speight 2013, 2018; Sahib et al. 2020
- Eumerus hungaricus* Szilády, 1940  
Speight 2018
- Eumerus lunatus* (Fabricius, 1794)  
= *Eumerus lunulatus* Fabricius, in Becker and Stein 1913: 86  
Becker and Stein 1913, **Rif**, Tanger; Leclercq 1961a, **EM**, Melilla; Claußen 1989b; Dirickx 1994; Mouna 1998; Dousti and Hayat 2006; Speight 2013, 2018; Sahib et al. 2020
- Eumerus melotus* (Séguy, 1941)  
= *Lampetia melota* Séguy, in Séguy 1941d: 13  
Séguy 1941d, **AA**, Agadir; Claußen 1989b; Dirickx 1994; Mouna 1998; Sahib et al. 2020
- Eumerus nudus* Loew, 1848  
Becker and Stein 1913, **Rif**, Tanger; Claußen 1989b; Claußen and Hauser 1990, **MA**, Ifrane (1750 m); Dirickx 1994; Speight 2013, 2018; Sahib et al. 2020
- Eumerus obliquus* (Fabricius, 1805)  
Sahib et al. 2020, **Rif**, Oued Jnane Niche, **EM**, Oued Khemis
- Eumerus ornatus* Meigen, 1822  
Séguy 1930a, **MA**, Aïn Leuh, forest of Timelilt; Claußen 1989b; Dirickx 1994; Mouna 1998; Sahib et al. 2020; **AP** (Oued Cherrat) – MISR
- Eumerus pulchellus* Loew, 1848  
Séguy 1961; Claußen 1989b; Dirickx 1994; Sahib et al. 2020
- Eumerus punctifrons* Loew, 1857  
Leclercq 1961a, **EM**, Melilla; Claußen 1989b; Dirickx 1994; Mouna 1998; Sahib et al. 2020
- Eumerus pusillus* Loew, 1848  
Claußen 1989b, **HA**, Tizi-n'Test (1900 m); Dirickx 1994; Sahib et al. 2020
- Eumerus sabulonum* (Fallén, 1817)  
Séguy 1961; Claußen 1989b; Dirickx 1994; Sahib et al. 2020
- Eumerus schmideggeri* Steenis, Hauser & Zuijen, 2017  
Steenis et al. 2017, **AA**, Sidi R'bat (37 km S Agadir); Sahib et al. 2020

*Eumerus strigatus* (Fallén, 1817)<sup>34</sup>

Kanervo 1939, **Rif**, **HA**; Timon-David 1951, **AP**, Rabat, Sehoul; Claußen 1989b, **MA**, Azrou (1700 m), **HA**, Oukaimeden (2200 m), Ansegmir-Tal W Midelt; Claußen and Hauser 1990, **MA**, Ifrane, Hajeb; Dirickx 1994; Mouna 1998; Speight 2013; Sahib et al. 2020

*Eumerus subornatus* Claußen, 1989b

Claußen 1989b, **HA**, Tizi-n'Test (1900 m); Schmid 1995; Speight 2013, 2018; Dirickx 1994; Sahib et al. 2020

*Eumerus truncatus* Rondani, 1868

Steenis et al. 2017, **AA**, S. Aït-Baha, 11 km NW Taliouine, 25 km NE Tizinit, 20 km E Tizinit, Assaka; Speight 2018; Sahib et al. 2020

***Merodon Meigen, 1803***<sup>35</sup>*Merodon aberrans* Egger, 1860

= *Lampetia aberrans* Egger, in Séguy 1961: 174

Séguy 1961; Claußen 1989b; Dirickx 1994; Marcos-Garcia et al. 2007; Koçak and Kemal 2010; Vujic et al. 2011; Speight 2013, 2018; Sahib et al. 2020

*Merodon aeneus* Meigen, 1822<sup>36</sup>

= *Lampetia aenea* Meigen, in Becker and Stein 1913: 86; Kanervo 1939: 5; Timon-David 1951: 146

Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a; Séguy 1930a, **AP**, Vallée Oued Korifla, **MA**, Tizi-s'Tkrine; Kanervo 1939, **Rif**; Timon-David 1951; Séguy 1961; Claußen 1989b; Dirickx 1994; Mouna 1998; Sahib et al. 2020

*Merodon arrasus* Becker, 1921<sup>37</sup>

Becker 1921, **Rif**, Tanger; Claußen 1989b; Dirickx 1994; Sahib et al. 2020

*Merodon aurifer* Loew, 1862

= *Merodon distinctus* Palma, 1864

= *Lampetia distincta* Palm, in Timon-David 1951: 146

34 *Eumerus strigatus* is not recorded from Morocco by Claußen and Hauser 1990, or by Claußen 1989b. However, it is listed for Morocco by Claußen 1989b, based on records from earlier authors (Kanervo 1939; Timon-David 1951). *Eumerus strigatus* is now known to be a complex of at least four species (*E. consimilis*, *E. narcissi*, *E. sogdianus*, *E. strigatus*). Any of those four species might be present in Morocco, but *E. strigatus* is the least likely to be present, given its rarity in the Mediterranean zone of Europe.

35 Revision of the *Merodon constans* species group (Vujić et al. 2020) has revealed the existence of cryptic taxa whose status is as yet uncertain. The name *constans* can only be applied provisionally to the species recorded from Morocco, until these issues are resolved and the identity of Moroccan specimens can be meaningfully re-assessed.

36 Revision of *Merodon* shows that *M. aeneus* (often also referred to as *M. aureus*) is confined to the Alps of southern Europe. Two very similar species, *M. pumilus* and *M. unicolor*, are known from N. Africa. Moroccan records of *M. aeneus* almost certainly refer to either *M. pumilus* or *M. unicolor*.

37 *Merodon arrasus* is probably a junior synonym of *Merodon eques* Fabricius, 1805 (Ebejer and Bensusan 2010).

- Timon-David 1951, **AP**, Zaer, **MA**, Ifrane; Claußen 1989b; Dirickx 1994; Mouna 1998; Sahib et al. 2020; Vujić et al. 2021c
- Merodon avidus* Rossi, 1782<sup>38</sup>
- = *Lampetia spinipes* (Fabricius), in Becker and Stein 1913: 86; Timon-David 1951: 146
- = *Merodon spinipes* (Fabricius), in Gil Collado 1929: 409
- = *Lampetia avida* Rossi, in Séguy 1961: 176
- Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a, **Rif**, **HA**; Séguy 1930a, **AP**, Chellah (Rabat), Oued Korifla, **MA**, Aïn Leuh; Kanervo 1939; Timon-David 1951, **AP**; Séguy 1961; Claußen 1989b, **HA**, Oukaïmeden (2600 m); Hurkmans 1993; Dirickx 1994; Mouna 1998; Koçak and Kemal 2010; Likov et al. 2020; Sahib et al. 2020, **HA**, Lac Oukaïmeden
- Merodon bequaerti* Hurkmans, 1993
- Vujić et al. 2020a, **EM**, Mountain of Beni-Snassen, **MA**, Azrou
- Merodon cabanerensis* Marcos-García, Vujić & Mengual, 2007
- Vujić et al. 2018, **HA**, Ait Mhamed (Azilal, 1700 m); Speight 2018; Sahib et al. 2020; Vujić et al. 2021
- Merodon calcaratus* (Fabricius, 1794)
- Vujić et al. 2021b, **EM**, Mountains of Béni Snassen, near Nador, **AP**, 38 km SW of El Jadida, Garbouz
- Merodon chalybeus* Wiedemann in Meigen, 1822
- = *Lampetia spicata* Becker, in Timon-David 1951: 146
- = *Merodon spicatus* Becker, in Claußen 1989b: 365, 373
- Timon-David 1951, **AP**, forest of Maâmora; Claußen 1989b, **HA** (2500 m); Dirickx 1994; Mouna 1998; Marcos-García et al. 2007; Speight 2013, 2018; Sahib et al. 2020; **AP** (Cap Cantin) – MISR
- Merodon clavipes* (Fabricius, 1781)
- Hurkmans 1993, **MA**; Marcos-García et al. 2007; Koçak and Kemal 2010; Sahib et al. 2020
- Merodon eques* Fabricius, 1805
- = *Lampetia eques* (Fabricius), in Séguy 1961: 178
- Séguy 1961; Claußen 1989b; Dirickx 1994; Ebejer and Bensusan 2010, **AA**; El Hawagry and Gilbert 2019; Sahib et al. 2020
- Merodon equestris* (Fabricius, 1794)
- = *Eristalis ferrugineus* (Fabricius), in Fabricius 1805: 240
- = *Lampetia equestris* (Fabricius), in Séguy 1961: 178, 179
- Fabricius 1805, **AP**; Séguy 1961; Claußen 1989b; Dirickx 1994; Sahib et al. 2020
- Merodon escaleraï* Gil Collado, 1929
- Gil Collado 1929a, **AP**, Essaouira; Claußen 1989b; Dirickx 1994; Speight 2018; Sahib et al. 2020

38 Revision of the *Merodon avidus* complex by Popović et al. (2015) demonstrates the presence of *M. ibericus* in Morocco, but not *M. avidus*. Given the confusion between these species, earlier records of *M. avidus* from Morocco could refer either to *avidus* or *ibericus*.

*Merodon femoratus* Sack, 1913

= *Merodon biarcuatus* Curran, 1939, in Curran 1939: 6, 7; Claußen 1989: 373; Dirickx 1994: 79; Koçak and Kemal 2010: 1199; Speight 2018: 137

= *Merodon elegans* Hurkmans, 1993, in Hurkmans 1993: 195; Schmid 1995; Marcos-Garcia et al. 2007: 553; Speight 2018: 141

Curran 1939, **AP**, forest of Maâmora (Rabat); Claußen 1989b; Hurkmans 1993, **AP**; Dirickx 1994; Schmid 1995; Marcos-Garcia et al. 2007; Koçak and Kemal 2010; Speight 2018; Likov et al. 2020

*Merodon geniculatus* Strobl, 1909

Gil Collado 1929a, **Rif**; Claußen 1989b, **HA** (2500 m); Dirickx 1994; Mouna 1998; Marcos-Garcia et al. 2007; Koçak and Kemal 2010; Speight 2013, 2018; Sahib et al. 2020, **HA**, Lac Oukaïmeden – MISR

*Merodon hurkmansi* Marcos-García, Vujić & Mengual, 2007

Marcos-García et al. 2007

*Merodon ibericus* Vujić, 2015

= *Merodon bicolor* Gil Collado, 1930

Popović et al. 2015, **MA**, Azrou, Ifrane; Acanski et al. 2016; Speight 2018; Sahib et al. 2020

*Merodon italicus* Rondani, 1845

Claußen and Hauser 1990, **MA**, Ifrane (1750 m); Mouna 1998

*Merodon longicornis* Sack, 1913

Claußen and Hauser 1990, **MA**; Dirickx 1994; Sahib et al. 2020

*Merodon maroccanus* Gil Collado, 1929

Gil Collado 1929a, **AP**, Essaouira; Claußen 1989b; Dirickx 1994; Sahib et al. 2020

*Merodon minutus* Strobl, 1893

= *Lampetia minutus* Strobl, in Séguy 1961: 180

Séguy 1961; Leclercq 1961a; Claußen 1989b; Dirickx 1994; Speight 2013, 2018; Sahib et al. 2020

*Merodon monticolus* Villeneuve, 1924

Kassebeer 1998a, **HA**, Ouirgane, Taftraoute, Taliouine; Sahib et al. 2020

*Merodon murorum* (Fabricius, 1794)

= *Syrphus murorum* (Fabricius), in Fabricius 1794: 288

= *Merodon auripilus* (Meigen), in Meigen 1830: 354

= *Lampetia auripila* Meigen, in Séguy 1941d: 13; Mouna 1998: 86

Fabricius 1794; Meigen 1830; Séguy 1941d, **AA**, Agadir; Séguy 1961; Claußen 1989b; Dirickx 1994; Mouna 1998; Vujić et al. 2018, **AP**, Essaouira; Sahib et al. 2020

*Merodon pruni* (Rossi, 1790)

= *Lampetia pruni* (Rossi), in Becker and Stein 1913: 86

= *Merodon pruni* var. *obscurus* Gil Collado, in Gil Collado 1929: 407, 408

Becker and Stein 1913; Gil Collado 1929a, **Rif**, Tanger; Claußen 1989b; Hurkmans, 1993; Dirickx 1994; Koçak and Kemal 2010; Sahib et al. 2020

*Merodon pumilus* Macquart, 1849

Ebejer et al. 2019, **Rif**, Moulay Abdelsalam (965 m); Sahib et al. 2020

*Merodon rufus* Meigen, 1838

= *Lampetia rufa* Meigen, 1838, in Becker and Stein 1913: 86

Becker and Stein 1913, **Rif**; Claußen 1989b; Dirickx 1994; Sahib et al. 2020

*Merodon segetum* (Fabricius, 1794)

Peck 1988; Claußen 1989b; Dirickx 1994; Sahib et al. 2020

*Merodon serrulatus* Wiedemann in Meigen, 1822

Hurkmans 1993; Speight 2013, 2018; Sahib et al. 2020; Vujić et al. 2020a

*Merodon sophron* Hurkmans, 1993

Hurkmans 1993, **MA**, Azrou; Schmid 1995; Koçak and Kemal 2010; Vujić et al. 2020a, **MA**, Azrou

*Merodon tangerensis* Hurkmans, 1993

Hurkmans 1993, **Rif**, Tanger; Schmid 1995; Koçak and Kemal 2010; Sahib et al. 2020

*Merodon tricinctus* Sack, 1913

= *Lampetia tricincta* Sack, in Timon-David 1951: 146

Timon-David 1951, **MA**, Ifrane; Claußen 1989b; Dirickx 1994; Mouna 1998; Sahib et al. 2020

*Merodon unguicornis* Strobl, 1909

Ebejer et al. 2019, **MA**, 10 km S of Azrou (1775 m); Sahib et al. 2020, **Rif**, maison forestière

***Platynochaetus* Wiedemann, 1830***Platynochaetus rufus* Macquart, 1835

Gil Collado 1929a, **AP**, Mogador; Dirickx 1994; Sahib et al. 2020

*Platynochaetus setosus* (Fabricius, 1794)

Gil Collado 1929a, **HA**, Marrakech; Séguy 1953a, **AA**, Souss: Aïn Chaib; Claußen 1989b; Dirickx 1994; Speight 2013, 2018; Sahib et al. 2020

## Milesiini

***Milesia* Latreille, 1804***Milesia crabroniformis* (Fabricius, 1775)

Claußen and Hauser 1990, **MA**, Ifrane, Hajeb; Dirickx 1994; Sahib et al. 2020

***Spilomyia* Meigen, 1803***Spilomyia maroccana* Kuznetzov, 1997

= *Spilomyia digitata* (Rondani), in Becker and Stein 1913: 86

Becker and Stein 1913, **Rif**, Tanger; Claußen 1989b, **HA**, Tizi-n'Test (1900 m); Claußen and Hauser 1990, **MA**, Ifrane, Hajeb; Kuznetzov 1997; Dirickx 1994; Kassebeer 1999d; Steenis 2000; Sahib et al. 2020

***Syritta* Le Peletier & Serville, 1828***Syritta flaviventris* Macquart, 1842

Claußen 1989b, **AP**, Kénitra; Dirickx 1994; Sahib et al. 2020, **EM**, farm Saf-Saf

*Syritta pipiens* (Linnaeus, 1758)

Becker and Stein 1913, **Rif**, Tanger; Gill Collado 1929a; Séguy 1930a, **AP**, Rabat, Casablanca, **MA**, Meknès; Kanervo 1939; Timon-David 1951, **AP**, Rabat, **AA**, Agdz; Leclercq 1961a, **EM**, Melilla; Claußen 1989b, **HA**, Tizi-n'Test (1900 m); Claußen and Hauser 1990, **MA**, Ifrane, Hajeb; Dirickx 1994; Mouna 1998; Pârvu et al. 2006, **AP**, Merja Zerga; Popescu-Mirceni 2011; Sahib et al. 2020, **Rif**, Bni Maaden, dam Moulay Bouchta, Oued Koub, Douar Kitane, Oued Maggou, **EM**, farm Saf-Saf, **MA**, vicinity of Ifrane, **HA**, vicinity of Asni, Tizi-n'Test, **AA**, Oued Assa; **AP** (Rabat), **MA** (Aïn Leuh), **SA** – MISR

***Temnostoma* Le Peletier & Serville, 1828***Temnostoma bombylans* (Fabricius, 1805)

Séguy 1961, **MA**; Claußen 1989b; Dirickx 1994; Sahib et al. 2020

***Xylota* Meigen, 1822***Xylota segnis* (Linnaeus, 1758)

= *Zelima* (*Xylota*) *segnis* Linnaeus, in Becker and Stein 1913: 86; Timon-David 1951: 147

Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a; Timon-David 1951, **HA**, Zaouia Ahansal; Leclercq 1961a, **Rif**, Azib de Ketama; Claußen 1989b; Claußen and Hauser 1990, **MA**, Ifrane (1750 m); Dirickx 1994; Mouna 1998; Sahib et al. 2020, **Rif**, Aïn El Maounzil, Oued Koub, Oued Sidi Ben Saâda, **HA**, vicinity of Asni; **HA** (Zaouiet Ahansal) – MISR

## Rhingiini

***Cheilosia* Meigen, 1822***Cheilosia brunnipennis* Becker, 1894

= *Chilosia flavipes* (Panzer), in Kanervo 1939: 2

Kanervo 1939, **HA**; Kassebeer, 1998c, **MA**; Séguy 1961; Claußen 1989b; Speight 2013, 2018; Sahib et al. 2020

*Cheilosia flavipes* (Panzer, 1798)

Mouna 1998: 86

*Cheilosia grossa* (Fallén, 1817)

Kassebeer 1998c, **HA**, Asif Mellah, Tizi-n'Tichka; Speight 2013, 2018; Sahib et al. 2020

*Cheilosia latifrons* (Zetterstedt, 1843)

= *Cheilosia intonsa* Loew, in Timon-David 1951: 144

Timon-David 1951, **AP**, Sehoul; Claußen 1989b; Dirickx 1994; Mouna 1998; Kassebeer 1998c, **Rif**, Ouezzane, **AP**, Oued Loukous, Larache, **MA**, Ifrane, **HA**, Oukaimeden; Sahib et al. 2020

*Cheilosia mutabilis* (Fallén, 1817)

Speight 2013, 2018

*Cheilosia griseiventris* Loew, 1857

= *Chilosia marokkana* Becker, in Becker 1894: 395; Becker and Stein 1913: 87



= *Cheilosia maroccana* Becker, 1894, in Gil Collado 1929: 405

Becker 1894; Becker and Stein 1913; Gil Collado 1929a; Séguy 1961; Claußen 1989b; Dirickx 1994; Kassebeer 1998c, **MA**, **HA**; Sahib et al. 2020

*Cheilosia paralobi* Malski, 1962

= *Cheilosia longula* (Zetterstedt, 1838), in Gil Collado 1929: 405

Gil Collado 1929a; Claußen 1989b, **MA**, Claußen and Hauser 1990, **MA**, Ifrane (1750 m); Dirickx 1994; Kassebeer 1998c, **HA**; Speight 2013, 2018; Sahib et al. 2020

*Cheilosia parva* Kassebeer, 1998

Kassebeer 1998c, **MA**, Azrou, Ifrane (1650 m); Claußen and Speight 2007; Sahib et al. 2020

*Cheilosia rodgersi* Wainwright, 1911

Becker and Stein 1913, **Rif**, Tanger; Claußen 1989a; Dirickx 1994; Kassebeer 1998c, **Rif**, Tanger; Speight 2013, 2018; Sahib et al. 2020

*Cheilosia scutellata* (Fallén, 1817)

Gil Collado 1929a, **Rif**; Claußen 1989b; Dirickx 1994; Kassebeer 1998c, **Rif**, Chefchaouen, **MA**, Ouirouane, Ifrane; Sahib et al. 2020

*Cheilosia soror* (Zetterstedt, 1843)

= *Cheilosia rufipes* (Preyssler, 1793), in Claussen and Hauser 1990: 436, Kassebeer 1998c: 65

Claußen and Hauser 1990, **MA**, Ifrane (1750 m); Kassebeer 1998c, **MA**, Ifrane; Dirickx 1994; Sahib et al. 2020

*Cheilosia variabilis* (Panzer, 1798)

Kassebeer 1998c, **MA**, Ifrane; Speight 2013, 2018; Khaganinia and Kazerani 2014; Sahib et al. 2020

***Ferdinandea Rondani, 1844***

*Ferdinandea fumipennis* Kassebeer, 1999

Kassebeer 1999b, **MA**, Ifrane, Azrou, **HA**, Marrakech, Ouirgane; Speight 2013, 2018; Sahib et al. 2020

## Volucellini

***Volucella Geoffroy, 1762***

*Volucella inanis* (Linnaeus, 1758)

Claußen and Hauser 1990, **MA**, Ifrane (1750 m); Dirickx 1994; Sahib et al. 2020

*Volucella liquida* Erichson, 1841

Gil Collado 1929a, **Rif**; Séguy 1930a, **AP**, Mogador, **MA**, Azrou, Bekrit; Kanervo 1939, **MA**; Séguy 1953a, **MA**, Ifrane; Timon-David 1951, **MA**, Ifrane, Azrou, **HA**, Aït Mohamed Sgatt; Leclercq 1961a, **Rif**, Azib de Ketama, **MA**, Dayat Aoua, Ifrane, Azrou; Claußen 1989b; Claußen and Hauser 1990, **MA**, Ifrane (1750 m); Dirickx 1994; Mouna 1998; Sahib et al. 2020, **Rif**, jumb Kitane – MISR

*Volucella zonaria* Poda, 1761

Séguy 1930a, **AP**, Casablanca; Claußen 1989b; Dirickx 1994; Mouna 1998; Sahib et al. 2020; **AP** (Rabat, Casablanca) – MISR

***Brachypalpus* Macquart, 1834**

*Brachypalpus valgus* (Panzer, 1798)

Kassebeer 1998a, **MA**, Ifrane, **HA**, Ouirgane; Sahib et al. 2020

Psilotini

***Psilota* Fallén, 1823**

*Psilota atra* (Fallén, 1817)

= *Psilota toubkalana* Kassebeer, 1995, in Kassebeer 1995: 395–400

Kassebeer 1995, **HA**; Smit and Vujic 2008, **HA**, Ouirgane, Marrakech; Speight 2018; Sahib et al. 2020, **MA**, Douar Zaouiat Cheikh

Pipizinae

Pipizini

***Heringia* Rondani, 1856**

*Heringia heringi* (Zetterstedt, 1843)

Kassebeer 1998a, **HA**, Tahanaout, Ouirgane; Sahib et al. 2020

***Pipizella* Rondani, 1856**

*Pipizella thapsiana* Kassebeer, 1995

Kassebeer 1995, **HA** (1000 m); Speight 2013, 2018; Sahib et al. 2020, **MA**, Douar Zaouiat Cheikh

***Triglyphus* Loew, 1840**

*Triglyphus escaleraei* Gil Collado, 1929

Gil Collado 1929a, **Rif**, Tanger; Dirickx 1994; Speight 2013; Sahib et al. 2020

Syrphinae

Bacchini

***Melanostoma* Schiner, 1860**

*Melanostoma mellinum* (Linnaeus, 1758)

Becker and Stein 1913, **Rif**, Tanger; Séguy 1934b, **AP**, Korifla; Timon-David 1951, **MA**, Ifrane, Azrou, Aïn Leuh, **HA**, Aït Mizane; Leclercq 1961a, **MA**, Ifrane; Claußen 1989b, **HA**, Ansegmir-Tal W Midelt (1400); Claußen and Hauser 1990, **MA**, Ifrane (1750 m); Mouna 1998; Pârvu and Zaharia 2007; Sahib et al. 2020, **Rif**, Dayat Rahrah, Aïn el Ma Bared, Oued Dardara, Dayat El Ânassar, Dayat Lemtahane, Garden Ksar Al Rimal, tributary Oued Tazarine, Oued Farda, Dayat El Birdiyel, maison forestière, stream at 1 km from Sidi Yahia Aârab, Dayat Amsemlil, **EM**, farm Saf-Saf, **MA**, Oued d'Ifrane, **HA**, Lac Oukaimeden – MISR

*Melanostoma mundum* Czerny & Strobl, 1909

Dakki 1997; Mouna 1998

*Melanostoma scalare* (Fabricius, 1794)

Gil Collado 1929a, **Rif**; Claußen 1989b; Dirickx 1994; Sahib et al. 2020, **Rif**, Aïn el Ma Bared, Oued Mezine, Aïn Quanquben, Aïn Takhninjoute, Oued Koub

***Platycheirus* Le Peletier & Serville, 1828**

*Platycheirus albimanus* (Fabricius, 1781)<sup>39</sup>

Séguy 1930a, **HA**, Tizi-n'Test, Jebel Imdress; Mouna 1998; Kassebeer 1998b

*Platycheirus ambiguus* (Fallén, 1817)

Kassebeer 1998b, **HA**; Sahib et al. 2020

*Platycheirus atlas* Kassebeer, 1998

Kassebeer 1998b, **MA**, Azrou, Ifrane; Sahib et al. 2020

*Platycheirus fulviventr* (Macquart, 1829)

Ebejer et al. 2019, **AA**, 14 km E of Rich (Errachidia, 1278 m); Sahib et al. 2020

*Platycheirus manicatus* (Meigen, 1822)

Séguy 1961; Claußen 1989b; Dirickx 1994; Mouna 1998; Kassebeer 1998b, **HA**, Toubkal; Sahib et al. 2020

*Platycheirus marokkanus* Kassebeer, 1998

Kassebeer 1998b, **MA**, **HA**; Speight 2018; Sahib et al. 2020, **Rif**, Aïn Takhninjoute, **HA**, Douar Akhlij Tnine Ourika

***Xanthandrus* Verrall, 1901**

*Xanthandrus comtus* (Harris, 1776)

Gil Collado 1929a, **Rif**, Tanger; Claußen 1989b; Dirickx 1994; Sahib et al. 2020

Paragini

***Paragus* Latreille, 1804**

*Paragus albifrons* (Fallén, 1817)

Kanervo 1939; Claußen 1989b; Dirickx 1994; Mouna 1998; Sahib et al. 2020

*Paragus atlas* Claußen, 1989

Claußen 1989b, **HA**, Tizi-n'Test (1900 m); Dirickx 1994; Schmid 1995; Speight 2013, 2018; Sahib et al. 2020

*Paragus bicolor* (Fabricius, 1794)

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **MA**, Tizi-s'Tkrine, forest of Timelilt, Azrou; Kanervo 1939, **AP**, **HA**; Séguy 1949a, **SA**, Guelmim; Timon-David 1951, **MA**, Ifrane; Claußen 1989b; Claußen and Hauser 1990, **HA**, Tizi-n'Test; Dirickx 1994; Dakki 1997; Sahib et al. 2020, **Rif**, Douar Dacher-yène, **HA**, vicinity of Asni; **MA** (Fès, Ifrane, Azrou) – MISR

*Paragus cinctus* Schiner & Egger, 1853

Claußen 1989b, **HA**, Tizi-n'Test (1900 m); Dirickx 1994; Speight 2013, 2018; Sahib et al. 2020, **HA**, vicinity of Asni

<sup>39</sup> *Platycheirus albimanus* is removed from the list for Morocco by Kassebeer 1998, who describes two new Moroccan species closely related to *P. albimanus*.

*Paragus coadunatus* Rondani, 1847

Claußen and Hauser 1990, **MA**, Ifrane, Hajeb; Dirickx 1994; Speight 2013, 2018; Sahib et al. 2020

*Paragus flammeus* Goeldlin, 1971

Claußen and Hauser 1990; Dirickx 1994; Speight 2013, 2018; Sahib et al. 2020

*Paragus haemorrhous* Meigen, 1844

Claußen 1989b, **MA**, Azrou (1700 m); Dirickx 1994; Sahib et al. 2020, **Rif**, Oued Mharhar

*Paragus hermonensis* Kaplan, 1981

Claußen 1989b, **MA**, Azrou (1700 m); Dirickx 1994; Sahib et al. 2020

*Paragus quadrifasciatus* Meigen, 1822

= *Paragus pulcherrimus* Strobl, in Timon-David 1951: 144

Timon-David 1951, **MA**, Ifrane; Claußen 1989b, **AP**, Kénitra; Claußen and Hauser 1990, **MA**, Ifrane, Hajeb; Dirickx 1994; Mouna 1998; Sahib et al. 2020, **Rif**, Douar Kitane, **AA**, Agadir airport; **MA** (Ifrane) – MISR

*Paragus majoranae* Rondani, 1857

Claußen and Hauser 1990, **MA**; Dirickx 1994; Sahib et al. 2020

*Paragus pecchiolii* Rondani, 1857

Claußen and Hauser 1990, **MA**, Ifrane (1750 m), Hajeb

*Paragus strigatus* Meigen, 1822

= *Paragus bimaculatus* Meigen, in Wiedemann 1824: 33

Wiedemann 1824, **AP**; Claußen 1989b; Claußen and Hauser 1990, **MA**, Ifrane (1750 m), Hajeb; Dirickx 1994; Speight 2018; Sahib et al. 2020

*Paragus tibialis* (Fallén, 1817)

= *Paragus tibialis meridionalis* Becker, in Becker and Stein 1913: 88; Gil Collado 1929: 403; Leclercq 1961: 241

Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a; Kanervo 1939; Séguy 1949a, **SA**, Guelmim; Leclercq 1961a, **Rif**, Bab Taza, **MA**, Taza; Claußen 1989b; Claußen and Hauser 1990, **HA**, Tizi-n'Test (2000 m); Dirickx 1994; Dakki 1997; Grabener 2017; Sahib et al. 2020, **HA**, vicinity of Asni, Ijoukak vicinity; **AP** (Rabat) – MISR

*Paragus vandergooti* Marcos-Garcia, 1986

Claußen 1989b, **HA**, Tizi-n'Test à (1900 m); Claußen and Hauser 1990, **MA**, Ifrane, Hajeb; Dirickx 1994; Speight 2013, 2018; Sahib et al. 2020

## Syrphini

***Chrysotoxum* Meigen, 1803***Chrysotoxum bicinctum* (Linnaeus, 1758)

Timon-David 1951, **MA**, Ifrane, **HA**, Haute Réghaya; Leclercq 1961a, **MA**, Mischliffen (2019 m); Claußen 1989b; Dirickx 1994; Mouna 1998; Sahib et al. 2020; **MA**, **HA** – MISR

*Chrysotoxum intermedium* Meigen, 1822

Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a; Séguy 1930a, **MA**, Tizi-S'Tkrine, Aïn Leuh, forest of Taffert, **HA**, Tizi-n'Test, Goundafa; Kanervo 1939; Claußen 1989b; Claußen and Hauser 1990, **MA**, Ifrane (1750 m); Dirickx 1994; Mouna 1998; Pârvu et al. 2006, **AP**, Cap Bedouza; Dousti and Hayat 2006; Pârvu and Zaharia 2007; Kazerani et al. 2013b; Sahib et al. 2020, **Rif**, 1 km after Dardara, Oued Azila, Dayat Jebel Zemzem, Aïn El Maounzil, Oued Tafoughalt, **MA**, Douar Zaouiat Cheikh, **HA**, vicinity of Asni, **AA** Douar Issafen; **AP** (Rabat), **MA** (Aïn Leuh), **HA** (Réghaya) – MISR

*Chrysotoxum volaticum* Séguy, 1961

Séguy 1961, **MA**; Claußen 1989b, **HA**, Oukaïmeden (2600 m); Claußen and Hauser 1990, **MA**, Ifrane (1750 m); Dirickx 1994; Sahib et al. 2020

*Dasysyrphus* Enderlein, 1938*Dasysyrphus albostrigatus* (Fallén, 1817)

Kassebeer 1998a, **HA**, Bin-el-Ouidane, Ouirgane, Imlil, Asni; Sahib et al. 2020

*Epistrophe* Walker, 1852*Epistrophe eligans* (Harris, 1780)

= *Syrphus ochrostoma* (Zetterstedt), in Becker and Stein 1913: 88; Claußen 1989b: 372

Becker and Stein 1913, **Rif**, Tanger; Claußen 1989b; Kassebeer 1998a, **MA**, Ifrane, **HA**, Imlil, Asni, Ouirgane; Sahib et al. 2020, **Rif**, Dayat Tazia

*Epistrophe eligans* (Harris, 1870) var. *trifasciata* Strobl

Ebejer and Bensusan 2010, **AA**; Djellab et al. 2013

*Episyrphus* Matsumura & Adachi, 1917*Episyrphus balteatus* (De Geer, 1776)

= *Syrphus balteatus* De Geer, in Becker and Stein 1913: 88; Séguy 1930a: 129

= *Epistrophe balteata* (De Geer), in Gil Collado 1929: 406; Kanervo 1939: 3; Timon-David 1951: 144

Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a; Séguy 1930a, **AP**, Rabat, **MA**, Aïn Sferguila; Timon-David 1951, **AP**, forest of Maâmora, Rabat, **HA**, Marrakech; Claußen 1989b; Dirickx 1994; Mouna 1998; Sahib et al. 2020, **Rif**, Sebt Zinate, Aïn Sidi Brahim Ben Arrif, dam Nakhla, Aïn Boughaba, Garden Ksar Al Rimal, Oued Aârkoub, Dayat Rahrah, Oued Sahel, dam Moulay Bouchta, maison forestière, Ksar El Kébir, Dayat Jebel Zemzem, Oued Taida, stream at 1 km from Sidi Yahia Aârab, Aïn Quanquben, Oued Maggou, Forest Bab El Karn, Douar Kitane, forest El Mahfoura, **HA**, Aïn Zarka of Meski, **AA**, Douar Zaouia; **AP** (Rabat) – MISR

*Eupeodes* Osten-Sacken, 1877*Eupeodes corollae* (Fabricius, 1794)

= *Syrphus berber* Bigot, in Bigot 1884: 88

= *Syrphus corollae* Meigen, in Becker and Stein 1913: 88; Séguy 1930a: 129, Kanervo 1939: 3; Gil Collado 1929: 406

= *Syrphus corollae* Fabricius, in Timon-David 1951: 144

= *Metasyrphus corollae* (Fabricius), in Dirickx 1994: 89

Bigot 1884; Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a; Séguy 1930a, **HA**, Tizi-n'Test, Jebel Imdress, Goundafa; Kanervo 1939; Timon-David 1951, **AP**, forest of Maâmora, Rabat, Sidi Taibi, **HA**, Réghaya, Tazzarine, **AA**, Agdz, Plaine de Souss (Taroudant); Leclercq 1961a, **MA**, Ifrane; Claußen and Hauser 1990, **MA**, Ifrane (1750 m), **HA**, Oukaimeden (3200 m), **AA**, Tan-Tan; Dirickx 1994; Mouna 1998; Pârvu and Zaharia 2007; Grabener 2017; El Hawagry and Gilbert 2019; Sahib et al. 2020, **Rif**, Village Sebt Zinate, Aïn el Ma Bared, Garden Ksar Al Rimal, Oued Bin EL Ouidane, Oued Sahel, Aïn Takhninjoute, stream at 1 km from Sidi Yahia Aârab, Oued Jnane Niche, dam Smir, Oued Boumarouil, Dayat Jebel Zemzem, Oued Maggou, Meadow Fahs Lmhar, Douar Kitane, forest El Mahfoura, **MA**, Douar Zaouiat Cheikh, **HA**, vicinity of Asni, Ijoukak vicinity, Lac Oukaimeden; **AA** Agdz – MISR

*Eupeodes latifasciatus* (Macquart, 1829)

= *Syrphus latifasciatus* Macquart, in Séguy 1949: 156; Séguy 1953a: 84

= *Metasyrphus latifasciatus* (Macquart), in Dirickx 1994: 89

Séguy 1949a, **SA**, Guelmim; Séguy 1953a, **AA**, Oued Khoref; Claußen 1989b; Dirickx 1994; Dakki 1997; Sahib et al. 2020, **Rif**, Douar Kitane, maison forestière, Oued Ametrasse

*Eupeodes luniger* (Meigen, 1822)

= *Metasyrphus luniger* (Meigen), in Dirickx 1994: 90, 237

= *Syrphus luniger* Meigen, in Gil Collado 1929: 406

Gil Collado 1929a, **AP**; Claussen 1989b; Dirickx 1994; Sahib et al. 2020, **Rif**, Oued Maggou, Oued Martil, Belyounech, Douar Kitane, **MA**, Douar Ben Smim, **HA**, vicinity of Asni

*Eupeodes nuba* (Wiedemann, 1830)

= *Syrphus rufinasutus* Bigot, in Bigot 1884: 88, Séguy 1961: 107

= *Metasyrphus nuba* (Wiedemann), in Dirickx 1994: 90, 238

Bigot 1884; Séguy 1961; Claußen 1989b, **HA**, Ansegmir-Tal W Midelt (1400 m); Dirickx 1994; Dousti and Hayat 2006; Ehteshamnia et al. 2010; Naderloo et al. 2011; Speight 2013, 2018; Kazerani et al. 2013b; El Hawagry and Gilbert 2019; Sahib et al. 2020

*Eupeodes punctifer* (Frey, 1934)<sup>40</sup>

Mouna 1998: 86

### ***Ischiodon* Sack, 1913**

*Ischiodon aegyptius* (Wiedemann, 1830)

= *Simosyrphus aegyptius* (Wiedemann, 1830)

Gil Collado 1929a; Timon-David 1951, **AP**, Rabat, **AA**, Agdz; Mouna 1998; Grabener 2017; Mengual 2018; Sahib et al. 2020; **AP** (Rabat) – MISR

<sup>40</sup> *Eupeodes punctifer* is almost confined to Northern Europe, north of the Arctic Circle, and a record from Morocco seems almost impossible. It is not possible to suggest on which species the Moroccan record might be based.

***Lapposyrphus* Dušek & Láska, 1967***Lapposyrphus lapponicus* (Zetterstedt, 1838)= *Syrphus arcuatus* Fallén, 1817, in Becker and Stein 1913: 88= *Metasyrphus lapponicus* (Zetterstedt, 1838), in Dirickx 1994: 89= *Eupeodes lapponicus* (Zetterstedt, 1838), in Claußen 1989b: 372Becker and Stein 1913, **Rif**; Claußen 1989b; Dirickx 1994; Sahib et al. 2020***Meliscaeva* Frey, 1946***Meliscaeva auricollis* (Meigen, 1822)= *Epistrophe auricollis* Meigen, in Becker and Stein 1913: 89; Gil Collado 1929: 406; Timon-David 1951: 145Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a; Timon-David 1951, **AP**, Oued Korifla, Zaers, Rabat; Claußen 1989b; Dirickx 1994; Mouna 1998; El Hawagry and Gilbert 2019; Sahib et al. 2020, **Rif**, Aïn el Ma Bared, Dayat El Ânassar, Belyounech, Oued Mezine, dam Moulay Bouchta, Aïn Afersiw, dam Entrasol, Oued à 15 km de Fifi, jumb Kitane, Oued Maggou, Douar Kitane, Oued Sahel, **MA**, Aïn Ouilili; **AP** (Rabat, Zaers) – MISR*Meliscaeva cinctella* (Zetterstedt, 1843)= *Syrphus cinctellus* Zetterstedt, in Séguy 1934b: 162Séguy 1934b, **MA**, Oued Leben (Taounate); Claußen 1989b; Dirickx 1994; Mouna 1998; Sahib et al. 2020 – MISR***Scaeva* Fabricius, 1850***Scaeva albomaculata* (Macquart, 1842)= *Lasipticus albomaculata* (Macquart), in Gil Collado 1929: 405; Timon-David 1951: 145= *Lasiophthicus albomaculatus* Macquart, in Séguy 1953a: 84Gil Collado 1929a; Séguy 1953a, **MA**, Immouzer; Timon-David 1951, **AP**, Rabat, **MA**, El Harcha; Leclercq 1961a, **MA**, Azrou; Claußen 1989b, **MA**, Azrou (1700 m); Claußen and Hauser 1990, **MA**, Ifrane; Dirickx 1994; Mouna 1998; Dousti and Hayat 2006; Ehteshamnia et al. 2010; Naderloo et al. 2011; Speight 2013, 2018; Kazerani et al. 2013b; Grabener 2017; El Hawagry and Gilbert 2019; Sahib et al. 2020, **Rif**, Belyounech, **HA**, Aïn Zarka of Meski, Lac Oukaïmeden; **AP** (Rabat, Cap Cantin), **EM** (Debdou) – MISR*Scaeva dignota* (Rondani, 1857)Claußen and Hauser 1990, **MA**, Ifrane (1750 m); Dirickx 1994; Sahib et al. 2020, **Rif**, Oued Maggou, Dayat Lemtahane*Scaeva mecogramma* (Bigot, 1860)Dirickx 1994; Kassebeer 1998a, **Rif**, Chefchaouen, **AP**, Kénitra, **HA**, Ouirgane; Sahib et al. 2020*Scaeva pyrastris* (Linnaeus, 1758)= *Catabomba pyrastris* Linnaeus, in Becker and Stein 1913: 88= *Lasiophthicus pyrastris* Linnaeus, in Séguy 1930a: 128= *Lasipticus pyrastris* Linnaeus, in Gil Collado 1929: 405, Timon-David 1951: 145

Becker and Stein 1913, **Rif**; Gil Collado 1929a, **AP**; Séguy 1930a, **AP**, forest of Zaers, forest of Maâmora, **MA**, Tizi-s'Tkrine; Timon-David 1951, **AP**, Rabat, **MA**, Ifrane; Claußen 1989b; Dirickx 1994; Mouna 1998; Sahib et al. 2020, **Rif**, Dayat Jebel Zemzem, stream at 1 km from Oued Sidi Yahia Aârab, **AA**, 1 km before Douar Aïn Lahmar; **AP** (Rabat, Cap Cantin) – MISR

*Scaeva selenitica* (Meigen, 1822)

= *Lasiophthicus seleniticus* Meigen, in Séguy 1930a: 128

Séguy 1930a, **HA**, Aguerd el Had, **AA**, Talekjount (Souss); Claußen 1989b; Dirickx 1994; Mouna 1998; Sahib et al. 2020

### ***Sphaerophoria* Le Peletier & Serville, 1828**

*Sphaerophoria interrupta* (Fabricius, 1805)

= *Sphaerophoria menthastri* (Linnaeus), in Becker and Stein 1913: 87; Kanervo 1939: 3; Timon-David 1951: 145; Séguy 1961: 109

Kanervo 1939, **AP**, **MA**, **HA**; Becker and Stein 1913, **Rif**; Timon-David 1951, **AP**, Kénitra, Rabat, **MA**, Harcha, Ifrane, Sefrou, **HA**, Agdz; Claußen 1989b; Dirickx 1994; Mouna 1998; El Hawagry and Gilbert 2019; Sahib et al. 2020; **AP** (Rabat), **MA** (Ifrane, Meknès) – MISR

*Sphaerophoria rueppelli* (Wiedemann, 1830)

Kanervo 1939, **Rif**, **HA**; Timon-David 1951, **AP**, Rabat, **AA**, Agadir, Agdz, Zagora; Séguy 1961; Claußen 1989b, **HA**, Ansegmir-Tal W Midelt (1400 m); Dirickx 1994; Mouna 1998; El Hawagry and Gilbert 2019; Sahib et al. 2020, **Rif**, Tarmast tributary, Oued Sidi Ben Saâda, Dayat Amsemlil, **EM**, farm Saf-Saf, **MA**, Oued d'Ifrane; **AP** (Rabat), **AA** (Agadir, Agdz, Zagora) – MISR

*Sphaerophoria scripta* (Linnaeus, 1758)

= *Sphaerophoria dispar* (Meigen), in Timon-David 1951: 145

Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a, **Rif**; Séguy 1930a, **AP**, Tlet n'Rhohr, **MA**, forest of Timelilt, Aïn Leuh, **EM**, Berkane; Kanervo 1939, **Rif**, **AP**, **MA**, **HA**; Séguy 1941a, **HA**, Tachdirt (Toubkal, 2500 m); Timon-David 1951, **AP**, Rabat, **MA**, Harcha, Sefrou, Ifrane; Leclercq 1961a, **MA**, Dayat Aoua, Ifrane, Azrou; Claußen 1989b, **MA**, Azrou (1700 m), **HA**, Oukaïmeden, Tizi-n'Test (1900 m), Ansegmir-Tal W midelt (1400 m); Claußen and Hauser 1990, **MA**, Ifrane, Hajeb (1750 m), **HA**, Oukaïmeden (3200 m); Dirickx 1994; Mouna 1998; Pârvu and Zaharia 2007; El Hawagry and Gilbert 2019; Sahib et al. 2020, **Rif**, Oued Aârkoub, dam Nakhla, meadow Mizoghar, Oued Dardara, 1 km after Dardara, Dayat El Birdiyel, palm grove Igrane, Aïn Quanquben, maison forestière, Oued Sidi Ben Saâda, Dayat Lemtahane, Dayat Amsemlil, forest El Mahfoura, **EM**, farm Saf-Saf, **MA**, Oued d'Ifrane, **HA**, vicinity of Asni, Lac Oukaïmeden, **AA**, Msidira – MISR

*Sphaerophoria taeniata* (Meigen, 1822)

= *Sphaerophoria menthastri* var. *taeniata* Meigen, in Timon-David 1951: 10

Timon-David 1951, **AP**, Rabat, saline mud; Claußen 1989b; Dirickx 1994; Sahib et al. 2020; **MA** (Aïn Leuh, Azrou, Timahdit) – MISR



***Syrphus* Fabricius, 1775***Syrphus ribesii* (Linnaeus, 1758)Kassebeer 1998a, **Rif**, Chefchaouen, Tétouan; Sahib et al. 2020, **Rif**, Douar Kitane*Syrphus vitripennis* Meigen, 1822Gil Collado 1929a, **Rif**, Tanger; Claußen 1989b; Dirickx 1994; Sahib et al. 2020***Xanthogramma* Schiner, 1860***Xanthogramma dives* (Rondani, 1857)Ebejer et al. 2019, **AA**, 29 km N of Rich (Errachidia, 1570 m); Sahib et al. 2020*Xanthogramma evanescens* Becker, 1913Becker and Stein 1913, **Rif**; Claußen 1989b; Dirickx 1994; Sahib et al. 2020*Xanthogramma marginale* (Loew, 1854)= *Xanthogramma marginale* var. *morenae* Loew, in Becker and Stein 1913: 86, Gil Collado 1929: 406Becker and Stein 1913, **Rif**, Tanger; Gil Collado 1929a, **Rif**; Kanervo 1939, **Rif**, **HA**; Séguy 1961; Claußen and Hauser 1990, **MA**, Ifrane (1750 m); Mouna 1998; Claußen 1989b; Dirickx 1994; Ebejer and Bensusan 2010, **AA**; Speight 2013, 2018; Sahib et al. 2020, **Rif**, village Sebt Zinate, Oued Maggou, Oued Ametrasse, Douar Kitane*Xanthogramma pedissequum* (Harris, 1776)= *Xanthogramma ornatum* (Meigen, 1822), in Gil Collado 1929: 406Gil Collado 1929a, **Rif**, Tanger; Claußen 1989b; Dirickx 1994; Sahib et al. 2020**Conopoidea****CONOPIDAE<sup>41</sup>**

K. Kettani

Number of species: **34**. Expected: 40

Faunistic knowledge of the family in Morocco: good

Conopinae

Conopini

***Conops* Linnaeus, 1758***Conops aegyptiacus* (Rondani, 1850)

Kröber 1915, 1928

---

41 Although the faunistic knowledge is good in that there are many species recorded, this does not mean the identifications and taxonomy are all correct (Stuke, in litteris 26.v.2016). Given several recent revisions, especially within the genera *Myopa*, *Physocephala*, and *Thecophora*, most of the Moroccan species listed here are in need of careful reconsideration.

*Conops ceriaeformis* Meigen, 1804

= *Conops acuticornis* Loew, 1847, in Becker and Stein 1913: 89

Becker and Stein 1913, **Rif**, Tanger; Kröber 1924, 1928, **Rif**, Tanger

*Conops djanetianus* Séguy, 1938

Mouna 1998: 85

*Conops elegans* Meigen, 1824

= *Conops semifumosus* Adams, in Séguy 1934b: 162

= *Conops ruficornis* Becker, 1913, in Becker and Stein 1913: 89; Kröber 1924: 69

Becker and Stein 1913, **Rif**, Tanger; Kröber 1924, 1927, **AP**, Casablanca;

Séguy 1934b, **Rif**, Tanger; Stuke 2016; El Hawagry et al. 2021

*Conops nubeculipennis* Bezzi, 1901

= *Conops atrogonius* Séguy, 1930, in Séguy 1930a: 134; Séguy 1953a: 85; Mouna 1998: 85

Séguy 1930a, **AP**, Rabat, Mogador; Séguy 1953a, **MA**, Dayat Ifrah; Mouna

1998; Stuke and Schmid-Egger 2015, **AA**, 1.5 km S of Tissint, 14 km NW of

Icht; Stuke 2016; El Hawagry et al. 2021

*Conops theryi* Séguy, 1928

Séguy 1928d; Séguy 1930a, **AP**, Rabat, Casablanca; Mouna 1998

*Conops tifedarius* Séguy, 1928

Séguy 1928d; Séguy 1930a, **AP**, Rabat; Mouna 1998

**Leopoldius Rondani, 1843**

*Leopoldius coronatus* (Rondani, 1857)

= *Brachyglossum coronatum* Rondani, in Séguy 1930a: 132; Mouna 1998: 85

Séguy 1930a, **MA**, Aïn Leuh (1400–1500 m); Mouna 1998

Physocephalini

**Physocephala Schiner, 1861**

*Physocephala chrysorrhoea* (Meigen, 1824)

Séguy 1930a, **AP**, Sidi Bettache; Mouna 1998; El Hawagry et al. 2021

*Physocephala laticincta* (Brullé, 1832)

Séguy 1930a, **MA**, Aïn Leuh (1400–1500 m); Bei-Bienko and Steyskal 1989;

Mouna 1998

*Physocephala maculigera* Kröber, 1915

Séguy 1941d, **AA**, Agadir; Mouna 1998

*Physocephala nigra* (De Geer, 1776)

Séguy 1930a, **AP**, Sidi Bettache

*Physocephala pusilla* (Meigen, 1804)

Séguy 1928d; Séguy 1930a, **MA**, Meknès, Ras el Ksar (1900 m), **HA**, Asni;

Mouna 1998; Stuke and Schmid-Egger 2015, **AA**, Aoulouz, 2 km NW of

Tissint; El Hawagry et al. 2021

*Physocephala rufipes* (Fabricius, 1781)

Mouna 1998; **AP** (Tagulet (Essaouira)) – MISR

*Physocephala vittata* (Fabricius, 1794)

Séguy 1928d; Séguy 1930a, **AP**, Rabat, Casablanca, **MA**, Meknès, Forêt Zaers; Mouna 1998; Stuke and Schmid-Egger 2015, **AA**, Aoersi (15 km NE of Agadir), **AA**, Oued near beach (19 km W of Tiznit); El Hawagry et al. 2021; **HA** – MISR

***Pseudophysocephala* Kröber, 1940***Pseudophysocephala bouvieri* (Séguy, 1936)

= *Conops bouvieri* Séguy, in Séguy 1936a: 299

Séguy 1936a, **MA**, Meknès (550 m); Sidney 2001, **MA**, Meknès

## Dalmanninae

## Dalmannini

***Dalmannia* Robineau-Desvoidy, 1830***Dalmannia aculeata* (Linnaeus, 1761)

Séguy 1928d; Séguy 1930a, **MA**, Aïn Leuh, Meknès; Mouna 1998 – MISR

*Dalmannia dorsalis* (Fabricius, 1794)

= *Dalmannia flavescens* (Meigen), in Becker and Stein 1913: 90

Becker and Stein 1913, **Rif**, Tanger; Stuke and Kehlmaier 2008, **MA**, Fès

## Myopinae

## Myopini

***Melanosoma* Robineau-Desvoidy, 1853***Melanosoma bicolor* (Meigen, 1824)

Séguy 1941d, **AA**, Agadir (Admine forest); Mouna 1998

*Melanosoma mundum* Czerny & Strobl, 1909

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **HA**, Tafingoult (Goundafa, 1500–1600 m), **AA**, Tenfeht (Souss, 1000–1500 m); Séguy 1953a, **HA**, Aït Ourir; Séguy 1949a, **AA**, Foun-el-Hassan; Mouna 1998; Stuke and Schmid-Egger 2015, **AA**, SE of Awir (10 km NNW of Agadir), Talmakant (80 km NE of Agadir), **AA**, 19 km W of Tiznit, Massa river (25 km NE of Tiznit), Imitek (30 km WSW of Tata), Issafen (55 km WNW of Tata); Grabener 2017

***Myopa* Camras, 1953***Myopa buccata* (Linnaeus, 1758)

Mouna 1998; **MA** (Oulmès) – MISR

*Myopa dorsalis* Fabricius, 1794

Séguy 1930a, **MA**, Jebel Ahmar (1750 m); Mouna 1998; **MA** (Oulmès); El Hawagry et al. 2021 – MISR

*Myopa hirsuta* Stuke & Clements, 2008

Stuke and Clements 2008, **MA**, Azrou, Ifrane

*Myopa nigrita* Wiedemann, 1824

Wiedemann 1824, 1830; Kröber 1916, 1928

*Myopa pellucida* Robineau-Desvoidy, 1830

Stuke and Clements 2008, **Rif**, Chefchaouen, **HA**, Ourika

*Myopa picta* Panzer, 1798

Séguy 1930a, **AP**, Casablanca, **MA**, Meknès; Mouna 1998; El Hawagry et al. 2021

*Myopa stigma* Meigen, 1824

Becker and Stein 1913, **Rif**, Tanger; El Hawagry et al. 2021

*Myopa testacea* (Linnaeus, 1767)

Séguy 1930a, **AP**, Casablanca, Fouarat, **HA**, Arround (Skoutana: 2000–2400 m), Tachdirt, Jebel Likount; Mouna 1998; **AP** (Fouarat) – MISR

*Myopa palliceps* (Bigot, 1887)

= *Myopa minor* Strobl, in Clements 2000: 239

= *Myopa vaulogeri* Séguy, in Séguy 1930a: 136; Clements 2000: 236

Séguy 1930a, **AP**, Casablanca; Villeneuve 1933; Mouna 1998; Clements 2000, **AP**, Casablanca, **HA**, Marrakech, Ourigane (1000 m), **AA**, Ammelental (10 km NE of Tafraoute)

### ***Thecophora* Rondani, 1845**

*Thecophora atra* (Fabricius, 1775)

= *Occemyia atra* Fabricius, in Séguy 1930a: 137; Becker and Stein 1913: 90

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **AP**, Sidi Bettache, **MA**, Meknès, **HA**, Asni, **AA**, Taroudant (Souss); Mouna 1998; **HA** (Mouldikht (Marrakech)); El Hawagry et al. 2021 – MISR

*Thecophora cinerascens* (Meigen, 1804)

= *Thecophora pusilla* (Meigen, 1824), in Pârvu et al. 2006: 276; Popescu-Mirceni 2011: 35

Pârvu et al. 2006, **MA**, Ifrane; Popescu-Mirceni 2011, **MA**, Ifrane

Sicini

### ***Sicus* Scopoli, 1763**

*Sicus ferrugineus* (Linnaeus, 1761)

Séguy 1930a, **MA**, Aïn Leuh; Zimina 1975; Mouna 1998; **MA** (Tizi-n'Ifrah, Guisser (1400 m)) – MISR

Zodioninae

Zodionini

### ***Zodion* Latreille, 1797**

*Zodion cinereum* (Fabricius, 1794)

Séguy 1930a, **MA**, Meknès, **HA**, Around (Skoutana); Mouna 1998; Grabener 2017

*Zodion erythrurum* Rondani, 1865

Séguy 1930a, **AP**, Casablanca, **HA**, Dar Caïd M'Tougui; Mouna 1998; Stuke and Schmid-Egger 2015, **AA**, Tamzergoute (10 km N of Agadir); El Hawagry et al. 2021

## Nerioidea

### MICROPEZIDAE

K. Kettani, M.J. Ebejer

Number of species: **1**. Expected: 2

Faunistic knowledge of the family in Morocco: poor

#### *Micropeza* Meigen, 1803

*Micropeza kettaniae* Ebejer, 2019

Ebejer 2019b, **Rif**, Oued Kbir (Béni Ratene, 157 m), Dayat Tazia (Tazia, 733 m) – MISR, NHMUK

## Tanypezoidea

### PSILIDAE

K. Kettani, M.J. Ebejer

Number of species: **1**. Expected: 5

Faunistic knowledge of the family in Morocco: poor

#### *Chamaepsila* Hendel, 1917

*Chamaepsila nigricornis* (Meigen, 1826)

Ebejer et al. 2019, **Rif**, Tétouan, Onsar Lile (349 m), Aïn Tissemlal (Azilane, 1255 m), **MA**, 17 km SW of Midelt (1940 m), Lac Aguelmane Afennourir (30 km SW of Azrou, 2050 m)

## Tephritoidea

### LONCHAEIDAE

K. Kettani, I. MacGowan

Number of species: **5**. Expected: 30

Faunistic knowledge of the family in Morocco: poor

Dasiopinae

#### *Dasiops* Rondani, 1856

*Dasiops latifrons* (Meigen, 1826)

Séguy 1934a; Mouna 1998; MacGowan and Freidberg 2008; **AP** (Rabat) – MISR; **Rif** (Tanger), **AP** (Rabat) – MHNP

## Lonchaeinae

***Lamprolonchaea* Bezzi, 1920***Lamprolonchaea smaragdi* (Walker, 1849)= *Lonchea aurea* Macquart, 1851, in Séguy 1953a: 85Becker and Stein 1913, **Rif**, Tanger; Séguy 1934a; Séguy 1953a, **AP**, Rabat, **MA**, Fès; Rungs 1952, **HA**, Arganier; Mouna 1998***Lonchaea* Fallén, 1820***Lonchaea tarsata* Fallén, 1820

MacGowan and Freidberg 2008

*Lonchaea* sp.= Recorded as *Lonchaea laticornis* Meigen, 1826 but almost certainly not this speciesBecker and Stein 1913, **Rif**, Tanger***Silba* Macquart, 1851***Silba adipata* McAlpine, 1956= *Lonchaea aristella* Becker, 1903, in Séguy 1934b: 162Séguy 1934b, **AP**, Rabat; MacGowan and Freidberg 2008; **AP** (Rabat) – MNHN**PALLOPTERIDAE**

K. Kettani, M.J. Ebejer

Number of species: **1**. Expected: 3

Faunistic knowledge of the family in Morocco: poor

***Palloptera* Fallén, 1820***Palloptera ustulata* (Fallén, 1820)Ebejer et al. 2019, **MA**, Zaouia d'Ifrane (Ifrane, 1603 m)**PIOPHILIDAE**

K. Kettani, M.J. Ebejer

Number of species: **3**. Expected: 6

Faunistic knowledge of the family in Morocco: poor

## Piophilinae

***Mycetaulus* Loew, 1845***Mycetaulus hispanicus* Duda, 1927

Mouna 1998; Carles-Tolrá 2002

***Piophila* Fallén, 1810***Piophila casei* (Linnaeus, 1758)Séguy 1930a, **Rif**, Tanger, **AP**, Rabat, **MA**, Meknès; Mouna 1998; **Rif** (Tanger), **AP** (Rabat), **MA** (Meknès) – MISR

***Prochyliza* Walker, 1849***Prochyliza nigrimana* (Meigen 1826)Ebejer et al. 2019, **Rif**, Aïn Tissemlal (Azilane, 1255 m)**PLATYSTOMATIDAE**

K. Kettani, G.V. Popov

Number of species: **4**. Expected: 4

Faunistic knowledge of the family in Morocco: moderate

Platystomatinae

***Platystoma* Meigen, 1803***Platystoma idia* Séguy, 1934<sup>42</sup>Séguy 1934a, **AP**, Aïn Sferguila (Forêt Zaers); Hennig 1945, **AP**, Aïn Sferguila (Forêt Zaers); Soós 1984a*Platystoma meridionale* Hendel, 1913= *Platystoma seminationis* (Fabricius), in Becker 1907: 385Becker 1907; Hendel 1913, **AP**, Mogador; Hennig 1945, **AP**, Mogador; Soós 1984a, **AP**, Mogador***Rivellia* Robineau-Desvoidy, 1830***Rivellia hispanica* Lyneborg, 1969Ebejer et al. 2019, **EM**, Tafoughalt*Rivellia syngenesiae* (Fabricius, 1781)Becker and Stein 1913, **Rif**, Tanger; Mouna 1998; **MA** (Oulmès, Meknès) – MISR**TEPHRITIDAE**

K. Kettani, A.L. Norrbom

Number of species: **69**. Expected: 75

Faunistic knowledge of the family in Morocco: moderate

Dacinae

Ceratitidini

***Capparimyia* Bezzi, 1920***Capparimyia savastanii* (Martelli, 1911)= *Capparimyia savastanii* (Martelli), in Séguy 1953a: 85Séguy 1953a, **AA**, Tiznit (on *Capparis spinosa*); El Harym and Belqat 2017

---

<sup>42</sup> *Platystoma idia* is possibly a synonym of *P. meridionale* Hendel.

***Ceratitis* MacLeay, 1829***Ceratitis capitata* (Wiedemann, 1824)

Becker and Stein 1913, **Rif**, Tanger; Vayssière 1920, **AP**, Rabat; Séguy 1930a (common in all of Morocco); Rungs 1952, **HA**, Arganier; Harris et al. 1980; Mouna 1998; De Meyer 2000, **AP**, Ouadj-Ouli-Mohamed, env. Settat, Insgane; Vidal et al. 2008; Aboussaid et al. 2009; Koçak and Kemal 2010; El Harym and Belqat 2017, **Rif**, Kitane, El Haouta, **MA**, Sensla, **AA**, Environs Massa, Oued Massa, Douar Sidi Abou, Douar Tighrimt, Douar Zaouia; Elaini and Mazih 2018; Elaini et al. 2019, **HA**, Arganeraie; **AP** (Safi) – MHNNR

Dacini

***Bactrocera* Macquart, 1835***Bactrocera oleae* (Rossi, 1790)

= *Dacus oleae* Rossi, in Becker and Stein 1913: 94, Vayssière 1920: 256

= *Dacus oleae* Gmelin, in Séguy 1930a: 168

Becker and Stein 1913, **Rif**, Tanger; Vayssière 1920, **EM**, Oujda; Séguy 1930a; Mouna 1998; Savio 2011, **EM**, Oujda; El Harym and Belqat 2017, **Rif**, El Haouta, Oued Maâza, Cascade Chrafate, Koudiat El Aouinate, Lâazaba, Dhar Sbagh Mâasra, El Hajria, **MA**, Sensla, **AA**, route Bab El Khemis

***Dacus* Fabricius, 1805***Dacus frontalis* (Becker, 1922)

El Harym and Belqat 2017, **AA**, Oued Foun Ziguïd (Douar Ouaitoute), Oued Draa (Ikhf Mezrou), Isdaoun

*Dacus longistylus* (Wiedemann, 1830)

El Harym and Belqat 2017, **AA**, Oued Tata, Douar Tighrimt, Oued Foun Ziguïd (Douar Ouaitoute)

Tephritinae

Dithrycini

***Oedaspis* Loew, 1862***Oedaspis daphnea* Séguy, 1930

Séguy 1930a, **AP**, El Mers (Rabat); Foote 1984; Soós 1984b; Mouna 1998; Norrbom et al. 1999; El Harym and Belqat 2017

*Oedaspis multifasciata* (Loew, 1850)

= *Oedaspis multifasciatus* (Loew), in Séguy 1953a: 85

Séguy 1953a, **EM**, Itzer (Haute Moulouya); El Harym and Belqat 2017

*Oedaspis trotteriana* Bezzi, 1913

Soós 1984b; Ribera and Blasco-Zumeta 1998; Norrbom et al. 1999; El Harym and Belqat 2017



## Myopitini

***Myopites* Blot, 1827***Myopites cypriacus* Hering 1938El Harym et al. 2020, **Rif**, Douar Halila, Dam Nakhla, Marabout Sidi Bou Hadjel*Myopites inulaedyssentericae* Blot, 1827<sup>43</sup>= *Myopites apicatus* Freidberg, 1980, in El Harym and Belqat 2017: 140El Harym and Belqat 2017, **Rif**, affluent Tarmast, Aïn Afersiw*Myopites longirostris* (Loew, 1846)El Harym et al. 2020, **Rif**, Oued Tahaddart, Douar Kouf, Mkhinak*Myopites stylatus* Fabricius, 1794El Harym and Belqat 2017, **Rif**, affluent Tarmast, Oued El Hamma, El Haouta*Myopites variofasciatus* Becker, 1903= *Myopites variofasciata* Becker, in Séguy 1941a: 32Séguy 1941a, **HA**, Imi-n'Ouaka (1500 m), Mouna 1998***Urophora* Robineau-Desvoidy, 1830***Urophora congrua* Loew, 1862<sup>44</sup>= *Euribia congrua* Loew, in Séguy 1941d: 14Séguy 1941d, **AA**, Taroudant; Mouna 1998; El Harym and Belqat 2017*Urophora jaculata* Rondani, 1870= *Urophora mauritanica* Macquart, in El Harym and Belqat 2017: 149 (misidentification)*Urophora mauritanica* Macquart, 1851= *Euribia algira* Macquart, in Séguy 1930a: 169= *Urophora algira* Macquart, in Séguy 1934a: 98, Mouna 1998: 87= *Urophora macrura* Loew, in Séguy 1934a: 100, Mouna 1998: 87Séguy 1930a, **HA**, Imi-N'Takandout, Dar Kaid M'Tougui; Séguy 1934a; White and Korneyev 1989, **HA**, Ito; Mouna 1998; Norrbom et al. 1999; Koçak and Kemal 2010; Koçak and Kemal 2013b*Urophora quadrifasciata algerica* (Hering, 1941)= *Euribia quadrifasciata* Meigen, in Séguy 1930a: 169

Séguy 1930a (common in all North Africa); Mouna 1998; El Harym and Belqat 2017

El Harym et al. 2020, **MA**, Douar Oulad Abdoune, Mlakite, Tirra, Douar Oulad Amar, Tihli, Douar Oulad Amar*Urophora solstitialis* (Linnaeus, 1758)= *Euribia solstitialis* Linnaeus, in Séguy 1930a: 169Séguy 1930a, **HA**, Haute Réghaya; Mouna 1998; El Harym and Belqat 2017

<sup>43</sup> *Myopites apicatus* is probably a synonym of *M. inulaedyssentericae* Blot and at least the Moroccan record appears to be the latter species. A revision of *Myopites* is in preparation (Korneyev, pers. comm.).

<sup>44</sup> Records of *Urophora congrua* are possibly based on misidentifications. Confirmation requires re-examination of the specimens.

## Noetini

***Ensina* Robineau-Desvoidy, 1830***Ensina sonchi* (Linnaeus, 1767)

El Harym and Belqat 2017, **Rif**, Ksar Rimal, Douar Tizga, Oued Kbir, **MA**, Sensla, **AA**, Oued Massa (Pont Aghbalou), Centre Sidi Ouassay, Aïn Boharroch, Atbane, Oued Tamanarne, Oued Draa (Tahtah), Jnane Makadir, Kasbah Asma, Ait Aissa O Brahim, Oued Ziz (Pont Errachidia), Oued Ouarzazate; **AA** (Tafraout (Al Ourir, 12 km E)) – MHNRR

***Hypenidium* Loew, 1862***Hypenidium graecum* Loew, 1862

= *Stephanaciura bipartita* Séguy, in Séguy 1930a: 171

Séguy 1930a, **MA**, Tiffert (2000–2200 m); Villeneuve 1933; Soós 1984b; Mouna 1998: 87; Norrbom et al. 1999; El Harym and Belqat 2017

## Tephrellini

***Aciura* Robineau-Desvoidy***Aciura coryli* (Rossi, 1790)

= *Aciura Powellii* Séguy, in Séguy 1930a: 170, Séguy 1953a: 85, Mouna 1998: 87  
Séguy 1930a, **MA**, Azrou (larvae from *Phlomis crinita* Cav.); Séguy 1953a, **AP**, Korifla; Mouna 1998; Norrbom et al. 1999, **MA**, Azrou; El Harym and Belqat 2017; El Harym et al. 2020, **Rif**, Arhil

***Oxyaciura* Hendel, 1927***Oxyaciura tibialis* (Robineau-Desvoidy, 1830)

= *Aciura tibialis* Robineau-Desvoidy, in Becker and Stein 1913: 94

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **MA**, Sker; Séguy 1934a; Mouna 1998; Koçak and Kemal 2010; Koçak and Kemal 2013b; El Harym and Belqat 2017, **Rif**, Dayat El Birdiyel, Oued Azila, maison forestière; Oued Maâza (Tarik El Ouasâa); **AP** (Tamri, 10 km S) – MHNRR

***Sphaeniscus* Becker, 1908***Sphaeniscus filiulus* (Loew, 1869)

= *Spheniscomyia filiula* Loew, in Séguy 1930a: 170; Mouna 1998: 87

= *Spheniscomyia aegyptiaca* Eflatoun, in Séguy 1949a: 157; Mouna 1998: 87

Séguy 1930a; Séguy 1949a, **SA**, Guelmim; Mouna 1998; El Harym and Belqat 2017, **Rif**, affluent Tarmast, Oued Maâza (Tarik El Ouasâa)

## Tephritini

***Acanthiophilus* Becker, 1908***Acanthiophilus helianthi* (Rossi, 1790)

= *Tephritis eluta* Meigen, in Becker and Stein 1913: 94

= *Orellia eluta* Meigen, in Mouna 1998: 87

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **Rif**, Tanger (Sarf, route Spartel), **MA**, Tizi s'Tkrine (Jebel Ahmar, 1700 m); Séguy 1949a, **AA**, Alnif, Foum-el-Hassan, **SA**, Guelmim; Mouna 1998; Koçak and Kemal 2013b; El Harym and Belqat 2017, **Rif**, Oued Zinat, Ksar Rimal, Oued Dardara, affluent Tarmast, Dayat El Birdiyel, Oued Azila, Dayat Jebel Zemzem, Oued Boumarouil, Douar Abou Boubnar (Marabout Sidi Gile), El Haouta, Oued Maâza (Tarik El Ouasâa), Douar Tizga, Dayat Afrate, Oued Mezine, Aïn El Malaâb, Oued Jnane Niche, **MA**, Oued Oum-er-Rbia, **AA**, Centre Sidi Ouassay, Avant Sidi Binzarne, route Bab El Khemis, airport Sidi Ifni, Oued Tisla, Oued Sayad, Oued Tamanarne, Oued Foum Ziguïd (Douar Ouaitoute), Jnane Makadir, Douar Rggaga, Oued Tinghir, Oued Ouarzazate; **AP** (Essaouira (Cap Hadid), Tamri, 10 km S) – MHNNR

### ***Campiglossa* Rondani, 1870**

*Campiglossa martii* (Becker, 1908)

El Harym and Belqat 2017, **Rif**, Oued Kbir, **AA**, Centre Sidi Ouassay

*Campiglossa producta* (Loew, 1844)

= *Oxyina tessellata* Loew, in Becker and Stein 1913: 94 (misidentification)

= *Paroxyna tessellata* (Loew), in Séguy 1930a: 174; Mouna 1998: 87; Koçak and Kemal 2013b: 38 (misidentification)

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **Rif**, Tanger, **AP**, Mogador, **HA**, Telouet Glaoua; Séguy 1934a; Séguy 1941a, **HA**, Tachdirt (Toubkal, 2500 m); Mouna 1998; Koçak and Kemal 2013b, **HA**; El Harym and Belqat 2017, **Rif**, Oued Al Mizzine, Aïn El Malaâb, Dayat El Hajjami

*Campiglossa sororcula* (Wiedemann, 1830)

= *Dioxyina sororcula* (Wiedemann), in El Harym and Belqat 2017: 155

El Harym and Belqat 2017, **Rif**, Ksar Rimal, Oued Jnane Niche, Oued Halila, Oued Zarka, Oued Martil, Oued Amsa, Oued Sahel, Dayat Jebel Zemzem, Oued Maggou, Dhar Sbagh Mâasra, Douar Kitane

### ***Capitites* Foote & Freidberg, 1981**

*Capitites augur* (Frauenfeld, 1857)

= *Trypanea augur* (Frauenfeld), in Séguy 1930a: 176; Mouna 1998: 87

Séguy 1930a, **MA**, Forêt Azrou, Tizi-s'Tkrine (Jebel Ahmar, 1700 m), **HA**, Tenfecht, **AA**, Souss; Mouna 1998; Pârvu et al. 2006, **AA**, Ouarzazate, Lac Edehby; Popescu-Mirceni 2011, **MA**, Tizi-s'Tkrine, Azrou, **HA**, Tenfecht, **AA**, Ouarzazate

*Capitites ramulosa* (Loew, 1844)

= *Acanthiophilus ramulosus* Loew, in Séguy 1930a: 177; Séguy 1941d: 15; Séguy 1949a: 157; Mouna 1998: 87

Séguy 1930a, **MA**, Timelilt, **HA**, Tizi-n'Test (Jebel Imdress, 2000–2450 m); Séguy 1941d, **AA**, Taroudant; Séguy 1949a, **AA**, Foum-el-Hassan, Akka, Agdz, Alnif; Mouna 1998; El Harym and Belqat 2017; El Harym et al. 2020, **Rif**, Amsa, Koudiat Taifour

***Desmella* Munro, 1957***Desmella rostellata* (Séguy, 1941)= *Paroxyna rostellata* Séguy, in Séguy 1941d: 14; Mouna 1998: 87Séguy 1941d, **AP**, Agadir; Soós 1984b; Mouna 1998; Norrbom et al. 1999, **AP**, Agadir; El Harym and Belqat 2017***Euaresta* Loew, 1873***Euaresta bullans* (Wiedemann, 1830)Herman and Dirlbek 2006, **AA**, Tiznit environs, Sidi Moussa d'Aglou; El Harym and Belqat 2017, **AA**, Msidira***Goniurellia* Hendel, 1927***Goniurellia longicauda* Freidberg, 1980Freidberg 1980, **MA**, Tizi-s'Tkrine (1700 m), Azrou, **AA**, Taroudant; Soós 1984b; Freidberg and Kugler 1989; Norrbom et al. 1999; El Harym and Belqat 2017, **AA**, airport Sidi Ifni, Oued Tisla, Oued Tamanarne, Douar Zaouiet, Oued Tata, Douar Tighrimt, Ksibat Elhdeb, Oued Ziz (Pont Errachidia), Oued Ouarzazate*Goniurellia persignata* Freidberg, 1980Freidberg 1980, **EM**, Defilia, near Figuig; Soós 1984b; Freidberg and Kugler 1989; Norrbom et al. 1999; Herman and Dirlbek 2006, **AA**, Tiffouloute (1146 m); El Harym and Belqat 2017, **Rif**, Dhar Sbagh Mâasra, **AA**, Douar Zaouiet, Oued Ouarzazate***Spathulina* Rondani, 1856***Spathulina sricula* Rondani, 1856= *Spathulina tristis* Loew, in Séguy 1930a: 174; Mouna 1998: 87Séguy 1930a; Mouna 1998; El Harym and Belqat 2017, **Rif**, Barrage Smir***Sphenella* Robineau-Desvoidy, 1830***Sphenella marginata* (Fallén, 1814)Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **Rif**, Oued Judios (Tanger); Mouna 1998; Cassar et al. 2005, **Rif**, lagoon Smir; Koçak and Kemal 2013b, **HA**; El Harym and Belqat 2017, **Rif**, affluent Tarmast, Dayat Jebel Zemzem, El Malaâb, Oued Maâza (Âachira), Dayat Aïn Jdioui, Oued Maggou, Dayat Afrate***Tephritis* Latreille, 1804***Tephritis carmen* Hering, 1937El Harym et al. 2020, **Rif**, forest house of National Park of Talassemtane*Tephritis dioscurea* (Loew, 1856)Séguy 1930a, **MA**, El Hajeb; Mouna 1998; El Harym and Belqat 2017*Tephritis divisa* (Rondani, 1871)El Harym and Belqat 2017, **Rif**, Dayat Amsemlil*Tephritis formosa* (Loew, 1844)Séguy 1930a, **HA**, Asni; Mouna 1998; El Harym and Belqat 2017, **Rif**, Oued Abou Bnar, Oued Sidi Ben Saâda, Oued Achekrade, Oued El Kanar*Tephritis leontodontis* (De Geer, 1776)

Séguy 1930a (All North Africa); Mouna 1998; El Harym and Belqat 2017

*Tephritis matricariae* (Loew, 1844)

Séguy 1930a (all North Africa); Mouna 1998; El Harym and Belqat 2017, **Rif**, affluent Oued Amsemlil, El Haouta, Dayat Jebel Zemzem, Dayat Amsemlil, Oued El Hamma

*Tephritis nigricauda* (Loew, 1856)

Séguy 1930a, **AP**, Berrechid; Séguy 1934a; Séguy 1941d, **AP**, Agadir, Berrechid; Mouna 1998; El Harym and Belqat 2017, **Rif**, Dayat Jebel Zemzem, Oued Maâza (Tarik El Ouasâa), Aïn El Maounzil, Dayat Tazia, Dayat Amsemlil, Douar Tamakoute

*Tephritis postica* (Loew, 1844)

Herman and Dirlbek 2006, **MA**, Volubilis (358 m); El Harym and Belqat 2017, **AA**, Ksibat Elhdeb, Oued Tinghir

*Tephritis praecox* (Loew, 1844)

Séguy 1930a, **Rif**, Oued Judios (Tanger), **MA**, Tizi-s'Tkrine (Jebel Ahmar, 1700 m); Mouna 1998; Herman and Dirlbek 2006, **MA**, Ifrane, Azrou National Park (1743 m); El Harym and Belqat 2017, **Rif**, Dayat El Ânassar, Dayat Amsemlil, affluent Oued Amsemlil, Douar Dacheryène, Douar Taghbaloute, Barrage Nakhla, Oued Sahel, Daya Jebel Zemzem, Douar Kitane, Oued El Hamma, Oued Kbir, Aïn el Ma Bared, Aïn El Malaâb, Douar Abou Boubnar (Marabout Sidi Gile), maison forestière, Douar Tizga, Oued Aïn Jdioui (Touaret), Dayat Afrate, Oued Jbara, Aïn El Maounzil, Dayat Tazia, Oued Jnane Niche, Oued Maggou, Aïn Tiouila, Dayat Lemtahane, Lâazaba, Dhar Sbagh Mâasra, El Hajria, Aïn Boharroch, Douar Tamakout, Douar Ouslaf, **EM**, Oued Béni Ouaklane (Béni Snassen); **AP** (Essaouira) – MHNNR

*Tephritis pulchra* (Loew, 1844)

Séguy 1930a; Mouna 1998; El Harym and Belqat 2017

*Tephritis simplex* (Loew, 1844)

Séguy 1930a; Mouna 1998; El Harym and Belqat 2017; El Harym et al. 2020, **Rif**, Aïn Soualah, Aïn El Maounzil

*Tephritis stictica* Loew, 1862

Séguy 1930a, **AP**, Rabat; Mouna 1998; El Harym and Belqat 2017

*Tephritis theryi* Séguy, 1930

Séguy 1930a, **HA**, Marrakech, Asni; Soós 1984b; Mouna 1998; Norrbom et al. 1999; El Harym and Belqat 2017

*Tephritis vespertina* (Loew, 1844)

El Harym and Belqat 2017, **Rif**, Dayat Lemtahane, Dhar Sbagh Mâasra

***Tephritomyia* Hendel, 1927***Tephritomyia lauta* (Loew, 1869)

= *Acanthiophilus lauta* Loew, in Séguy 1930a: 177; Mouna 1998: 87

Séguy 1930a, **HA**, Tachdirt (Imminen, 2400–2600 m); Freidberg and Kugler 1989; Mouna 1998; Yaran and Kütük 2012; Morgulis et al. 2015, **HA**, Tizi-n'Tichka; El Harym and Belqat 2017, **Rif**, Dayat El Birdiyel, Dayat Amsemlil, Lâazaba, **AA**, Msidira, Oued Ouarzazate

***Trupanea* Schrank, 1795***Trupanea amoena* (Frauenfeld, 1857)= *Trypanea amoena* Frauenfeld, in Séguy 1930a: 176; Mouna 1998: 87

Séguy 1930a, **MA**, Aïn Leuh; Mouna 1998; El Harym and Belqat 2017, **Rif**, Ksar Rimal, Oued Jnane niche, affluent Tarmast, Oued Martil (Tamouda), Oued Amsa, Oued El Hamma, Oued Boumarouil, Oued Sidi Yahia Aârab, Aïn Tiouila, **AA**, Oued Massa (Pont Aghbalou), Centre Sidi Ouassay, Avant Sidi Binzarne, Oued Tisla, Douar Tighrimt, Oued Draa (Tahtah), Jnane Makadir, Douar Rggaga, Aït Aissa O Brahim, Oued Draa (Ikhf Mezrou), Isdaoun, Ksibat Elhdeb, Oued Tinghir

*Trupanea guimari* (Becker, 1908)

El Harym and Belqat 2017, **AA**, Centre Sidi Ouassay, Msidira, Jnane Makadir, Aït Aissa O Brahim, Ksibat Elhdeb; Norrbom 2004: 06600136 – INHS (**AA**, 5 km W Ouarzazate)

*Trupanea stellata* (Fuesslin, 1775)

Séguy 1930a, **MA**, Timelilt (1900 m); Séguy 1949a, **SA**, Guelmim; Mouna 1998; El Harym and Belqat 2017, **Rif**, Mizoghar, Oued Maâza (Tarik El Ouasâa), Dayat Afrate, Aïn El Malâab, Oued Tkarae, **AA**, Centre Sidi Ouassay; **AA** (Taliouine) – MHNNR

## Terellini

***Chaetorellia* Hendel, 1927***Chaetorellia conjuncta* (Becker, 1912)

El Harym and Belqat 2017, **AA**, Airport Sidi Ifni, Oued Assa, Oued Sayad, Oued Fom Ziguïd (Douar Ouaitoute), Ksibat Elhdeb, Oued Ziz (Pont Errachidia), Oued Ouarzazate

*Chaetorellia hestia* Hering, 1937= *Chaetorellia hexachaeta* Loew, in Séguy 1930a: 174 [probably a misidentification]= *Orellia hexachaeta* Loew, in Séguy 1934a: 135 [misidentification, see White and Macquart 1989: 476]; Mouna 1998: 87

Séguy 1930a, **AP**, Mogador; Séguy 1934a; Mouna 1998; El Harym and Belqat 2017, **AA**, Centre Sidi Ouassay

*Chaetorellia succinea* (Costa, 1844)

El Harym et al. 2020, **MA**, Douar Oulad Abdoune

***Chaetostomella* Hendel, 1927***Chaetostomella cylindrica* (Robineau-Desvoidy, 1830)

El Harym et al. 2020, **Rif**, Marabout Douar Halila, Mkhinak, Douar Kitane

***Terellia* Robineau-Desvoidy, 1830***Terellia colon* (Meigen, 1826)= *Orellia colon* (Meigen), in Séguy 1930a: 173

Séguy 1930a (common in all North Africa); Mouna 1998; El Harym and Belqat 2017

*Terellia fuscicornis* (Loew, 1844)

Séguy 1930a (common in all North Africa); Mouna 1998; El Harym and Belqat 2017

*Terellia longicauda* (Meigen, 1838)

Séguy 1930a, **MA**, Aïn Leuh (1200–1400 m), **HA**, Tizi-n'Test, Goundafa (Jebel Imdress, 2000–2450 m); Séguy 1934a; Séguy 1941a, **HA**, Tachdirt (Toubkal, 2500 m); Mouna 1998; El Harym and Belqat 2017

*Terellia luteola* (Wiedemann, 1830)

El Harym et al. 2020, **Rif**, Bakrim, Aforidane, Aïn Siyed

*Terellia oasis* (Hering, 1938)

El Harym et al. 2020, **Rif**, Douar Halila

*Terellia ptilostemi* El Harym et al. 2021

El Harym et al. 2021, **Rif**, Douar Chourdane (908 m), Aïn Akorian (1610 m), Aïn Elma Sefli (1345 m), Forest house of the Talassemrane National Park (1674 m)

*Terellia serratulae* (Linnaeus, 1758)

= *Tephritis pallens* Wiedemann, in Wiedemann 1824: 54

= *Trypeta serratula* Linnaeus, in Becker and Stein 1913: 94

= *Terellia serratulae* Linnaeus, in Séguy 1930a: 173

Wiedemann 1824, **Rif**, Tanger; Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a (all North Africa); Mouna 1998; Norrbom et al. 1999; El Harym and Belqat 2017, **Rif**, Dayat Jebel Zemzem, Oued Maâza (Tarik El Ouasâa)

*Terellia virens* (Loew, 1846)

Séguy 1930a; White 1989, **HA**, Jebel Ayachi; Mouna 1998; Korneyev et al. 2013, **HA**, Tizi-n'Talrhem; El Harym and Belqat 2017, **AA**, airport Sidi Ifni, Oued Ouarzazate

## Trypetinae

## Carpomyini

***Carpomya* Costa, 1854***Carpomya incompleta* (Becker, 1903)

El Harym and Belqat 2017, **AA**, Douar Zaouia

***Euleia* Walker, 1835***Euleia heraclei* (Linnaeus, 1758)

= *Acidia heraclei* Linnaeus, in Séguy 1953a: 85

Séguy 1953a, **MA**, Sidi Slimane; Freidberg and Kugler 1989; Koçak and Kemal 2010; El Harym and Belqat 2017, **Rif**, Oued Boumarouil, Aïn El Âakba Larbaâ

*Euleia marmorea* (Fabricius, 1805)<sup>45</sup>

= *Philophylla flavescens* Fabricius, in Séguy 1930a: 170; Mouna 1998: 87

<sup>45</sup> *Euleia marmorea* may be a synonym of *Euleia heraclei*.

- = *Euleia flavescens* Fabricius, in Soós 1984b: 88  
 Séguy 1930a, **Rif**, Tanger; Zimsen 1964; Soós 1984b; Mouna 1998; Norrbom  
 et al. 1999, **Rif**, Tanger; El Harym and Belqat 2017

## Trypetini

### ***Chetostoma* Rondani, 1856**

*Chetostoma curvinerve* Rondani, 1856

El Harym and Belqat 2017, **Rif**, Oued Kelaâ, Bab el Karn

## Acknowledgments

We gratefully acknowledge the assistance and cooperation of Valery Korneyev and the late Amnon Freidberg who contributed to the revision of this family.

## ULIDIIDAE

K. Kettani, M.J. Ebejer

Number of species: **13**. Expected: 18

Faunistic knowledge of the family in Morocco: good

## Otitinae

### ***Ceroxys* Macquart, 1835**

*Ceroxys urticae* Linnaeus, 1758

Ebejer et al. 2019, **AP**, Lower Loukous (6 m), Larache (5 m)

### ***Dorycera* Meigen, 1830**

*Dorycera griseipennis* (Becker, 1907)

Soós 1984b

### ***Herina* Robineau-Desvoidy, 1830**

*Herina ghilianii* Rondani, 1869

Kameneva 2007, **HA**, Ansegmir-Tal, W Midelt (1400 m); Ebejer 2015

*Herina lacustris* (Meigen, 1826)

Kameneva 2007, **Rif**, Baie de Tanger

*Herina oscillans* (Meigen, 1826)

= *Herina schlueteri* Becker, in Becker and Stein 1913: 92; Soós 1984b: 56

Becker and Stein 1913, **Rif**, Tanger; Soós 1984b; Kameneva 2007, **Rif**, Tanger

### ***Melieria* Robineau-Desvoidy, 1830**

*Melieria nigritarsis* Becker, 1903

Ebejer et al. 2019, **AA**, Merzouga (714 m)

### ***Otites* Latreille, 1804**

*Otites tangeriana* Becker, 1913

= *Otites tangeriana* Becker, in Becker and Stein 1913, 1918: 92

Becker and Stein 1913, 1918, **Rif**, Tanger; Soós 1984b, **Rif**, Tanger



***Tetanops* Fallén, 1820***Tetanops flavescens* Macquart, 1835Séguy 1930a, **Rif**, Tanger; Mouna 1998

## Ulidiinae

***Physiphora* Fallén, 1810***Physiphora alceae* (Preyssler, 1791)

= *Chrysomyza demandata* (Fabricius, 1798), in Séguy 1953a: 85; Mouna 1998: 87  
 Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **HA**, Goundafa; Séguy  
 1953a, **SA**, El Aöun du Draa; Séguy 1949a, **AA**, Agdz; Mouna 1998; Koçak  
 and Kemal 2010; Kameneva and Korneyev 2016, **AA**, Tizi-n'Bachkoun (1600  
 m); **Rif** (M'Diq farm) – MISR; **Rif** (Tanger) – MfN; **AP** (Casablanca) – ZSSM

*Physiphora smaragdina* (Loew, 1852)Kameneva and Korneyev 2016, **AA**, 25 km S Goulmima (100 m) – NHMD***Ulidia* Meigen, 1826***Ulidia apicalis* (Meigen, 1826)

Séguy 1930a, **MA**, Meknès, **HA**, Skoutana; Séguy 1934a; Lyneborg 1969;  
 Soós 1984b; Mouna 1998

*Ulidia erythrophthalma* Meigen, 1826

Becker and Stein 1913, **Rif**, Tanger; Séguy 1949a, **AA**, Foug-el-Hassan; Mou-  
 na 1998

*Ulidia megacephala* Loew, 1845

Soós 1984b; Zaitzev 1984; Koçak and Kemal 2010

## Lauxanioidea

**CHAMAEMYIIDAE**

K. Kettani, M.J. Ebejer

Number of species: **18**. Expected: 24

Faunistic knowledge of the family in Morocco: moderate

## Chamaemyiinae

***Chamaemyia* Meigen, 1803***Chamaemyia aridella* (Fallén, 1823)

Ebejer 2016a, **Rif**, Moulay Abdelsalam (1180 m), Issaguen (1620 m); **HA**  
 (Jebel Ayachi, Mikdane, maison forestière, MR Jaffar, Tizi-n'Zou) – NHMUK

*Chamaemyia flavicornis* (Strobl, 1902)

Ebejer 2016a, **Rif**, Martil beach and dunes (on human faeces), **MA**, Khénifra  
 (17 km NW of Zaida, 1878 m), **AA**, Errachidia (29 km N of Rich, 1570 m);  
**HA** (Asni near Alrene, W Imlil) – NHMUK

*Chamaemyia flavipalpis* (Haliday, 1838)

= *Chamaemyia maritima* Zetterstedt, in Mouna 1998: 85

Mouna 1998; Ebejer 2016a, **Rif**, Ksar Sghir, Oued Araml, Ksar Sghir, **AP**, Larache, Merja Zerga, Loukous marsh

*Chamaemyia herbarum* (Robineau-Desvoidy, 1830)

Ebejer 2016a, **MA**, Khénifra, 17 km SW of Midelt (1940 m), **AA**, Errachidia, 29 km N of Rich (1570 m); **HA** (Jebel Ayachi, Mikdane, MR Jaffar, Tizi-n'Zou) – NHMUK

*Chamaemyia juncorum* (Fallén, 1958)

Ebejer 2016a, **MA**, Khénifra (17 km SW of Midelt, 1940 m), **AA**, Errachidia (29 km N of Rich, 1570 m)

*Chamaemyia polystigma* (Meigen, 1830)

Becker and Stein 1913, **Rif**, Tanger; Ebejer 2016a, **Rif**, Moulay Abdelsalam (1180 m), Sidi Yahia Aarab (377 m); **HA** (Asni) – NHMUK

***Melanochthiphila* Frey, 1958**

*Melanochthiphila* sp. Ebejer, 2016

Ebejer 2016a, **AA**, Errachidia (30 km W of Errachidia, 1065 m)

***Parochthiphila (Euestelia)* Enderlein, 1927**

*Parochthiphila (Euestelia) coronata* (Loew, 1858)

Carles-Tolrá 1993; Mouna 1998; Ebejer 2016a, **AP**, Larache (Lower Loukous, 2 m); **HA** (Jebel Ayachi, Mikdane, MR Jaffar) – NHMUK

*Parochthiphila frontella* (Rondani, 1874)

Ebejer 2016a; **HA** (Jebel Ayachi, Mikdane, Tizi-n'Zou, MR Jaffar) – NHMUK

*Parochthiphila inconstans* Becker, 1903

Ebejer 2016a, **AA**, Ziz river (9.5 km SE of Rich, 1285 m), Errachidia (6 km N of Errachidia, 1010 m)

*Parochthiphila (Euestelia) nigripes* Strobl, 1900

Ebejer 2016a, **Rif**, Ksar Sghir, Dardara

Leucopinae

***Leucopis* Meigen, 1803**

*Leucopis annulipes* Zetterstedt, 1848

Mouna 1998; **AP** (Maâmora) – MISR

*Leucopis griseola* (Fallén, 1823)

Mouna 1998; **AP** (Rabat), **MA** (Meknès), **HA** (Marrakech) – MISR

*Leucopis formosana* Hennig, 1938

Ebejer 2016a, **AP**, Sidi Smail, Oued Tensift (estuary)

*Leucopis glyphinivora* Tanasijtshuk, 1958

Ebejer 2016a, **AP**, Ksar Sghir, Azemmour, Oued Tensift (estuary), **AA**, Errachidia (30 km W of Errachidia)

*Leucopis kerzhneri* Tanasijtshuk, 1970

Ebejer 2016a; **HA** (Jebel Ayachi) – NHMUK

*Leucopis palumbii* Rondani, 1872

Ebejer 2016a, **Rif**, Ksar Sghir, Oued Aliane

***Lipoleucopis* de Meijere, 1928**

*Lipoleucopis pulchra* Raspi, 2008

Ebejer 2016a, **AA**, Errachidia, Ziz river (12 km S of Rissani)

## LAUXANIIDAE

K. Kettani, M.J. Ebejer

Number of species: **27**. Expected: 45

Faunistic knowledge of the family in Morocco: good

### Homoneurinae

***Homoneura* Wulp, 1891**

*Homoneura ericpoli* Carles-Tolrá, 1993

Ebejer and Kettani 2019a, **Rif**, Azilane (1255 m), Adrou (556 m), **HA**, Lac Tislit (Imlchil, 2254 m)

*Homoneura licina* Séguy, 1941

Séguy 1941d, **AA**, Agadir; Mouna 1998; Schacht et al. 2004; Ebejer and Kettani 2019a, **Rif**, Oued Laou (2 m), **AP**, Merja Zerga, Sidi Smaine, Safi (estuary of Oued Tensift), Azemmour (El Jadida), Diabat (Essaouira), Larache (5 m)

*Homoneura transversa* (Wiedemann, 1830)

Wiedemann 1830; Ebejer and Kettani 2019a

***Prosopomyia* Loew, 1856**

*Prosopomyia pallida* Loew, 1856

Vaillant 1956b, **HA**, Oukaïmeden, Imi-N'Ifri; Carles-Tolrá 1993; Mouna 1998; Ebejer and Kettani 2019a, **Rif**, Adrou (556 m), Issaguen (1547 m), **HA**, Jebel Ayachi – NHMUK

### Lauxaniinae

***Calliopum* Strand, 1928**

*Calliopum oosterbroeki* Shatalkin, 2000

Ebejer and Kettani 2019a, **Rif**, Oued Zarka (Yarghite, 137 m), Moulay Abdelsalam (1180 m), Ketama, Rahbat Amlay (284 m), Ikadjouen (294 m), Mechkralla (NPT, 981 m), Kharouba (roadside meadow between Chefchaouen and Tétouan, 385 m), Dbani (Béni Selmane, 1046 m), Aïn Ben Ali (Béni Selmane, 1014 m), **HA**, Lalla Takrkoust (Oued N'fis, 1141 m) – NHMUK

*Calliopum tuberculosum* (Becker, 1895)

Ebejer and Kettani 2019a, **Rif**, Oued Zarka (Yarghite, 135 m), Azilane (1255 m), Perdicaris Park (Tanger, 223 m), cascade Chrafate (859 m)

***Meiosimyza* Hendel, 1925***Meiosimyza* (*Lyciella*) *rorida* (Fallén, 1820)= *Homoneura rorida* Fallén, in Mouna 1998: 85Mouna 1998; **MA** (Aïn Leuh) – MISR***Minettia* Robineau-Desvoidy, 1830***Minettia aenigmatica* Ebejer, 2019Ebejer 2019a, **Rif**, Perdicaris Park (223 m), Oued Khmis (Khmis Anjra, 61 m), **HA**, Mikdane (Jebel Ayachi); Ebejer and Kettani 2019a*Minettia biseriata* (Loew, 1847)Ebejer and Kettani 2019a, **Rif**, Oued Khmis (Khmis Anjra, 61 m), Jnane Niche (46 m), Oued Kbir (Béni Ratene (PNPB), 157 m)*Minettia cantolraensis* Carles-Tolrá, 1998Ebejer and Kettani 2019a, **Rif**, Oued Laou, El-Fahsa, Oued Guallet (Bni Boufrah, 942 m), Oued Ouringa (2 m), Maggou (NPT, 962 m), Ksar el-Kbir road to Chefchaouen at bridge near oued Azla (80 m), Oued Siflaou (281 m), Dardara (484 m), Azilane (1255 m), Adrou (556 m), Perdicaris Park (Tanger, 223 m), Bni Bahlou (986 m), El Hamma (936 m), Amaghouse (Oued Laou), Oued Koub (Laghdar, 148 m), **EM**, Aïn Sfa (Berkane, 638 m), Tafoughalt (Berkane, 788 m), **HA**, Lalla Takrkoust (Oued N'fis, 1141 m), **AA**, Taliouine (Taroudant, 1049 m)*Minettia fasciata* (Fallén, 1826)Merz 2004, **AP**, Rabat; Ebejer and Kettani 2019a, **Rif**, Oued Khmis (Khmis Anjra, 61 m), Ksar el-Kbir road to Chefchaouen at bridge near oued Azla (80 m), Azilane (1255 m), Adrou (556 m), Issaguen (1547 m), Oued Taida (Al Andalous, 503 m), Perdicaris Park (Tanger, 223 m), El Hamma (936 m), **EM**, Aïn Sfa (Berkane, 683 m)*Minettia flavipalpis* (Loew, 1847)<sup>46</sup>= *Sapromyza flavipalpis* Loew, 1847, in Becker and Stein 1913: 93 (**Rif**, Tanger), Ebejer and Kettani 2019a: 144 (???)*Minettia flaviventris* (Costa, 1844)Ebejer and Kettani 2019a, **Rif**, Azilane (1255 m)*Minettia longiseta* (Loew, 1847)Ebejer and Kettani 2019a, **Rif**, Maggou (NPT, 962 m), Adrou (PNPB, 556 m)*Minettia plumicornis* (Fallén, 1820)<sup>46</sup>

Schacht et al. 2004; Ebejer and Kettani 2019a

*Minettia subvittata* (Loew, 1847)Ebejer and Kettani 2019a, **Rif**, Oued Khmis (Khmis Anjra, 61 m), Azilane (1255 m)*Minettia suillorum* (Robineau-Desvoidy, 1830)= *Minettia muricata* Becker, 1895, in Mouna 1998: 85Mouna 1998; Ebejer and Kettani 2019a, **Rif**, Adrou (556 m), Perdicaris Park (Tanger, 223 m), **HA**, Mikdane (Jebel Ayachi) – NHMUK

---

<sup>46</sup> *Minettia flavipalpis* and *M. plumicornis* are not confirmed for Morocco; see Ebejer and Kettani 2019a.

*Minettia tabidiventris* (Rondani, 1877)

Ebejer and Kettani 2019a, **Rif**, Adrou (556 m), Oued Kbir (Béni Ratene (PNPB), 157 m), Oued Koub (Laghdir, 148 m), Rahbat Amlay (284 m)

***Pachycerina* Macquart, 1835**

*Pachycerina pulchra* Loew, 1850

Ebejer and Kettani 2019a, **Rif**, Oued Zarka (Yarghite, 137 m)

***Peplominettia* Szilády, 1943**

*Peplominettia codinai* (Hennig, 1951)

Ebejer and Kettani 2019a, **Rif**, Oued Zarka (Yarghite, 137 m), Azilane (1255 m)

*Peplominettia striata* Szilády, 1943

Ebejer and Kettani 2019a, **Rif**, Oued Zarka (Yarghite, 137 m)

***Sapromyza* Fallén, 1810**

*Sapromyza apicalis* Loew, 1847

Schacht et al. 2004; Ebejer and Kettani 2019a, **HA**, Jebel Ayachi, Mikdane (stream), Lac Tislit (Imlchil, 2254 m) – NHMUK

*Sapromyza gozmanyi* Papp, 1981

Ebejer and Kettani 2019a, **Rif**, Oued Kbir (Béni Ratene (PNPB), 157 m), Perdicaris Park (Tanger, 223 m), Barrage Smir (M'Diq, 27 m)

*Sapromyza obscuripennis* Loew, 1847

Ebejer and Kettani 2019a, **Rif**, Jebel Talassemthane (1554 m), Jebel Lakraâ (1541 m)

*Sapromyza unizona* Hendel, 1908

Ebejer and Kettani 2019a, **Rif**, Perdicaris Park (Tanger, 223 m), **AP**, Larache (5 m)

*Sapromyza (Sapromyzosoma) laevatrispina* Carles-Tolrá, 1992

Ebejer and Kettani 2019a, **Rif**, Adrou (556 m), Issaguen (maison morestière, 1547 m)

*Sapromyza (Sapromyzosoma) parallela* Carles-Tolrá, 1992

Ebejer and Kettani 2019a, **Rif**, Adrou (556 m), Azilane (1255 m), Talassemthane (maison forestière, 1699 m), **HA**, Jaffar river (Jebel Ayachi, at maison forestière), Mikdane (Jebel Ayachi) – NHMUK

## Sciomyzoidea

### COELOPIDAE

K. Kettani

Number of species: **1**. Expected: 2

Faunistic knowledge of the family in Morocco: moderate

Coelopinae

***Coelopa* Meigen, 1830**

*Coelopa pilipes* Haliday, 1838

Séguy 1930a, **Rif**, Tanger; Dakki 1997; Lair 2013

**DRYOMYZIDAE**

K. Kettani

Number of species: **1**. Expected: 1

Faunistic knowledge of the family in Morocco: poor

Dryomyzinae

***Dryope* Robineau-Desvoidy, 1830**

*Dryope flaveola* (Fabricius, 1794)

Ebejer et al. 2019, **Rif**, Jebel Lakraâ (Talassemthane, 1596 m)

**HELCOMYZIDAE**

K. Kettani

Number of species: **1**. Expected: 2

Faunistic knowledge of the family in Morocco: poor

Helcomyzinae

***Helcomyza* Curtis, 1825**

*Helcomyza ustulata* Curtis, 1825

Cassar et al. 2005, **Rif**, Smir lagoon

**SCIOMYZIDAE**

K. Kettani, J-C. Vala

Number of species: **25**. Expected: 40

Faunistic knowledge of the family in Morocco: good

Sciomyzinae

Sciomyzini

***Ditaeniella* Sack, 1939**

*Ditaeniella grisescens* (Meigen, 1830)

Vala and Ghamizi 1991, **MA**, Ras el Ma, **AA**, Agadir; Kassebeer 1999a, **MA**, **HA**; Knutson and Vala 2011

***Pherbellia* Robineau-Desvoidy, 1830**

*Pherbellia cinerella* (Fallén, 1820)

= *Ditaenia cinerella* Fallén, in Séguy 1941a: 31

Séguy 1941a, **HA**, Tachdirt (Toubkal, 2500 m), Imi-n'Ouaka (1500 m);  
Leclercq and Schacht 1987, **HA**, Ansegmir-Tal, W Midelt, **HA**, Tizi-n'Test  
(1900 m); Rozkošný 1987, **HA**; Vala and Ghamizi 1991, **HA**, **MA**; Carles-  
Tolrá 1993; Kassebeer 1999a, **MA**, **HA**; **Rif** (Talassemthane) – MISR

*Pherbellia dorsata* (Zetterstedt, 1846)

Kassebeer 1999a, **MA**; Knutson and Vala 2011

*Pherbellia griseola* (Fallén, 1820)

Kassebeer 1999a, **MA**; Knutson and Vala 2011

*Pherbellia hermonensis* Knutson & Freidberg, 1983

Kassebeer 1999a, **HA**; Knutson and Vala 2011

*Pherbellia nana* (Fallén, 1820)

= *Pherbellia villiersi* Séguy, in Séguy 1941a: 31; Knutson 1981: 336 (new comb.)

Séguy 1941a, **HA**, Tachdirt (Toubkal, 2500 m); Knutson 1981, **HA**, Tachdirt; Leclercq and Schacht 1987, **HA**; Vala and Ghamizi 1989, **HA**; Kassebeer 1999a, **MA**, **HA**; Knutson and Vala 2011; **HA** – MISR

Tetanocerini

### ***Dichaetophora* Rondani, 1868**

*Dichaetophora obliterated* (Fabricius, 1805)

Séguy 1941a, **HA**, Tachdirt (Toubkal, 2500 m); Leclercq and Schacht 1987; Rozkošný 1987; Vala 1989; Vala and Ghamizi 1991; Kassebeer 1999a

### ***Elgiva* Meigen, 1838**

*Elgiva cucularia* (Linnaeus, 1767)

Leclercq and Schacht 1987, **HA**, Ansegmir-Tal, W Midelt (1400 m); Vala 1989; Kassebeer 1999a

### ***Euthycera* Latreille, 1829**

*Euthycera algira* (Macquart, 1849)

Vala and Reidenbach 1982, **Rif**, Tanger; Vala 1989, **Rif**, Tanger; Vala and Ghamizi 1991; Kassebeer 1999a, **Rif**, Tanger

*Euthycera soror* (Robineau-Desvoidy, 1830)

= *Euthycera alaris* Vala, 1983, syn. nov. Vala (pers. comm.)

Vala 1989, **Rif**, Tanger; Vala and Ghamizi 1991, **MA**; Carles-Tolrá 1993; Kassebeer 1999a, **MA**, **HA**

*Euthycera stichospila* (Czerny, 1909)

= *Euthycera leclercqi* Vala & Reidenbach, 1982, syn. by Rozkošný (1987)

Czerny and Strobl 1909; Vala and Reidenbach 1982; Rozkošný 1987

*Euthycera zelleri* (Loew, 1847)

Kassebeer 1999a, **Rif**, Tanger

### ***Hydromya* Robineau-Desvoidy, 1830**

*Hydromya dorsalis* (Fabricius, 1775)

Séguy 1930a, **Rif**, Tanger; Leclercq and Schacht 1987, **HA**, Ansegmir-Tal, W Midelt (1400 m), **HA**, Oukaïmeden (2600 m); Dakki 1997, **Rif**, Ketama; Vala 1989, **Rif**, Tanger; Vala and Ghamizi 1991, **MA**, **HA**; Kassebeer 1999a, **MA**, **HA**; Pârvu et al. 2006, **AP**, Merja Zerga

***Ilione* Haliday in Curtis, 1837***Ilione albiseta* (Scopoli, 1763)Leclercq and Schacht 1987, **HA**; Vala 1989; Kassebeer 1999a*Ilione trifaria* (Loew, 1820)Séguy 1941a, **HA**, Imi-n'Ouaka (1500 m); Vala 1989, **MA**, Dayat Aoua; Vala and Ghamizi 1991, **EM, MA, HA**; Carles-Tolrá 1993*Ilione unipunctata* (Macquart, 1849)Leclercq and Schacht 1987, **HA**; Rozkošný 1987; Vala 1989; Kassebeer 1999a***Oligolimnia* Mayer, 1953***Oligolimnia zernyi* Mayer, 1953Rozkošný 1987, **HA**, Tachdirt; Leclercq and Schacht 1987, **HA**; Vala 1989, **HA**; Kassebeer 1999a, **HA*****Pherbina* Robineau-Desvoidy, 1830***Pherbina coryleti* (Scopoli, 1763)Séguy 1930a, **Rif**, Tanger; Dakki 1997; Pârvu et al. 2006, **AP**, Merja Zerga; **HA** (Issougane n'Ouagouns) – MISR*Pherbina mediterranea* Mayer, 1953Leclercq and Schacht 1987, **HA**, Ansegmir-Tal, W Midelt (1400 m); Rozkošný 1987; Vala 1989; Vala and Ghamizi 1991, **AP**, Sidi Boughaba, **HA**, south of Marrakech; Carles-Tolrá 1993; Kassebeer 1999a, **MA*****Psacadina* Enderlein, 1939***Psacadina disjecta* Enderlein, 1939Verbeke 1964, **AA**, Tlata Reisana; Leclercq and Schacht 1987, **HA**, Ansegmir-Tal, W Midelt (1400 m); Rozkošný 1987; Vala 1989; Kassebeer 1999a, **MA***Psacadina verbekei* Rozkošný, 1975Vala and Ghamizi 1991, **HA**, south of Marrakech; Kassebeer 1999a***Sepedon* Latreille, 1804***Sepedon hispanica* Loew, 1862Verbeke 1964; Vala 1989, **AP**, Mohammedia; Vala and Ghamizi 1991, **AP**, Mohammedia, **HA**, Oued Tissaout (Kelaâ Sraghna); Kassebeer 1999a*Sepedon sphegea* (Fabricius, 1775)Séguy 1930a **Rif**, Tanger; Leclercq and Schacht 1987, **HA**, Ansegmir-Tal, W Midelt (1400 m); Rozkošný 1987; Vala 1989; Vala and Ghamizi 1991, **HA**, Tamesloht (south of Marrakech), **AA**, Bou Acheiba (Agadir); Carles-Tolrá 1993; Dakki 1997; Kassebeer 1999a*Sepedon spinipes* (Scopoli, 1763)Leclercq and Schacht 1987, **HA**, Ansegmir-Tal, W Midelt (1400 m); Vala and Ghamizi 1991, **MA**, Imouzzar, Tifounassine; Carles-Tolrá 1993; Kassebeer 1999a, **MA**; Knutson and Vala 2011***Trypetoptera* Hendel, 1900***Trypetoptera punctulata* (Scopoli, 1763)Leclercq and Schacht 1987, **HA**; Vala 1989; Kassebeer 1999a; Knutson and Vala 2011



**SEPSIDAE**

K. Kettani, J.-P. Haenni

Number of species: **12**. Expected: 20

Faunistic knowledge of the family in Morocco: poor

Sepsinae

Saltellini

***Saltella* Robineau-Desvoidy, 1830**

*Saltella sphondylii* (Schrank, 1803)

Ebejer et al. 2019, **Rif**, Barrage Smir (145 m), Oued Mhajrate (Ben Karrich, 180 m)

Sepsini

***Nemopoda* Robineau-Desvoidy, 1830**

*Nemopoda nitidula* (Fallén, 1820)

Mouna 1998 (no locality given)

***Sepsis* Fallén, 1810**

*Sepsis biflexuosa* Strobl, 1893

Zuska and Pont 1984; Mouna 1998; Pont and Meier 2002; Ozerov 2005; **HA** (Asni) – NHMUK

*Sepsis cynipsea* (Linnaeus, 1758)

Séguy 1930a, **AP**, Rabat, **MA**, **HA**, Marrakech; Séguy 1941a, **HA**, Imi-n'Ouaka (1500 m); Zuska and Pont 1984; Mouna 1998

*Sepsis flavimana* Meigen, 1826

Ebejer et al. 2019, **AA**, Ziz river (10 km S of Errachidia, 1008 m)

*Sepsis fulgens* Meigen, 1826

Séguy 1941d, **HA**, Tizi-n'Test (2000 m), **AA**, Agadir; Zuska and Pont 1984; Mouna 1998; Pârvu et al. 2006, **MA**, Ifrane; Popescu-Mirceni 2011, **MA**, Ifrane; **MA** (Ifrane), **HA** (Asni, near Alrene, Mikdane) – NHMUK

*Sepsis lateralis* Wiedemann, 1830

Séguy 1941a, **HA**, Imi-n'Ouaka (1500 m); Zuska and Pont 1984; Mouna 1998; **AP** (Sale Tropical Garden), **HA** (Marrakech) – NHMUK

*Sepsis punctum* (Fabricius, 1794)

Séguy 1941a, **HA**, Aït Souka (Toubkal); Zuska and Pont 1984; Mouna 1998; Pont and Meier 2002, **Rif**, Tanger, **AP**, Rabat; Pârvu et al. 2006, **AP**, Merja Zerga – MISR; **MA** (Ifrane), **HA** (Asni, Mikdane), **AA** (Souss Massa, Agadir) – NHMUK

*Sepsis thoracica* (Robineau-Desvoidy, 1830)

Zuska and Pont 1984; Mouna 1998; Pârvu et al. 2006, **AP**, Merja Zerga; Popescu-Mirceni 2011; **MA** (near Azrou), **HA** (Mikdane, Marrakech, Amizmiz) – NHMUK

*Sepsis violacea* Meigen, 1826

= *Sepsis ciliforceps* Duda, 1926, in Mouna 1998: 86

Becker and Stein 1913, **Rif**, Tanger; Zuska and Pont 1984; Mouna 1998;

Pârvu et al. 2006, **AP**, Merja Zerga; Popescu-Mirceni 2011 – MISR

***Themira Robineau-Desvoidy, 1830***

*Themira minor* (Haliday, 1833)

Zuska and Pont 1984; Mouna 1998 (no locality given); **HA** (Mikdane) – NHMUK

*Themira paludosa* Elberg, 1963<sup>47</sup>

Pârvu et al. 2006, **AP**, Merja Zerga; Popescu-Mirceni 2011

An additional species, *Australosepsis niveipennis* (Becker, 1903) is reported from Morocco in major catalogues (Pont and Meier 1984, Ozerov 2005). However this report is based upon a misinterpretation by Zuska (1968) of a name of locality given in Duda (1926b: 2): “Marako” [a locality in Mali, or possibly another in Ethiopia] was wrongly understood for “Marokko”, the German name of Morocco. Both Adrian Pont and Andrey Ozerov have confirmed (pers. comm. 27.xi.15) that they have not seen any Moroccan specimen of *A. niveipennis*.

The Moroccan records from NHMUK were checked by Adrian Pont to whom we express our grateful thanks for his kind help.

## Opomyzoidea

### AGROMYZIDAE

K. Kettani, M. Černý

Number of species: **62**. Expected: 150

Faunistic knowledge of the family in Morocco: poor

#### Agromyzinae

***Agromyza* Fallén, 1810**

*Agromyza abiens* Zetterstedt, 1848

Spencer 1967, **HA**, Ourika Valley, Marrakech; Černý and Merz 2006

*Agromyza albipennis* Meigen, 1830

Séguy 1936b; Mouna 1998

*Agromyza ambigua* Fallén, 1823

= *Domomyza ambigua* Fallén, in Séguy 1936: 5; Mouna 1998: 84

Séguy 1936b, **AP**, Rabat; Mouna 1998

*Agromyza bicaudata* (Hendel, 1920)

Černý and Merz 2006, **MA**, Azrou, Ifrane

<sup>47</sup> *Themira paludosa* is a dubious record since *T. paludosa* seems reliably recorded only from NW Europe (Estonia, Finland, NW Russia).

*Agromyza frontella* (Rondani, 1875)

Černý and Merz 2006, **MA**, Azrou, Ifrane

*Agromyza frontosa* (Becker, 1908)

Černý and Merz 2006, **MA**, Azrou, Ifrane

*Agromyza hiemalis* Becker, 1908

Spencer 1967, **HA**, Marrakech; Černý 2019; Černý et al. 2020

*Agromyza intermittens* (Becker, 1907)

= *Phytomyza secalina* Hering, 1925, in Maarouf 2003: 42

Maarouf 2003, **HA**, Chaouia

*Agromyza luteitarsis* (Rondani, 1875)

Maarouf 2003, **HA**, Chaouia

*Agromyza megalopsis* Hering, 1933

Černý et al. 2020, **AA**, Agadir Id Aissa (western end of gorge and village Am-toudi, 854 m)

*Agromyza nana* Meigen, 1830

Spencer 1967, 1973, **AP**, Casablanca; Černý and Merz 2006

*Agromyza nigrociliata* (Hendel, 1931)

Maarouf 2003, **HA**, Chaouia

*Agromyza rondensis* Strobl, 1900

Černý et al. 2020, **AA**, Agadir Id Aissa (western end of gorge and village Am-toudi, 854 m), River Aoulouz (= Asif Tifnout, 697 m)

*Agromyza spenceri* Griffiths, 1963

Černý and Merz 2006, **HA**, Asni; Černý 2013

***Melanagromyza* Hendel, 1920**

*Melanagromyza lappae* (Loew, 1850)

Mouna 1998; **AP** (Rabat) – MISR

*Melanagromyza verbasci* Spencer, 1957

Spencer 1967, **HA**

***Ophiomyia* Braschnikov, 1897**

*Ophiomyia beckeri* (Hendel, 1923)

Spencer 1967, **HA**; Černý and Merz 2006; Černý 2009; Černý and Tschirnhaus 2014

*Ophiomyia curvipalpis* (Zetterstedt, 1848)

= *Ophiomyia proboscidea* (Strobl, 1900), in Mouna 1998: 84

Spencer 1967, **HA**; Mouna 1998; Černý and Merz 2006; Černý and Merz 2007; Černý 2019

*Ophiomyia melandryi* de Meijere, 1924

Spencer 1967, **HA**; Černý and Merz 2006; Černý and Merz 2007; Černý 2009

*Ophiomyia vimmeri* Černý, 1994

Černý and Merz 2006, **AP**, Maâmora (Rabat); Černý and Merz 2007; Černý 2018

## Phytomyzinae

***Amauromyza* Hendel, 1931***Amauromyza* (*Amauromyza*) *morionella* (Zetterstedt, 1848)= *Agromyza morionella* Zetterstedt, in Becker and Stein 1913: 95***Aulagromyza* Enderlein, 1936***Aulagromyza atlantidis* (Spencer, 1967)= *Paraphytomyza atlantidis* Spencer, 1967, in Mouna 1998: 84Spencer 1967, **HA**, Asni; Mouna 1998*Aulagromyza cydoniae* (Hendel, 1936)= *Phytagromyza cydoniae* Hendel, 1936, in Hendel 1931–1936: 518Hendel 1931–1936, **AP**, Rabat*Aulagromyza hamata* (Hendel, 1932)\***HA**, Asni-Ouirgane***Cerodontha* Rondani, 1861***Cerodontha* (*Cerodontha*) *denticornis* (Panzer, 1806)Spencer 1967, 1973, **HA**; Černý and Merz 2006; Černý 2009*Cerodontha* (*Cerodontha*) *fulvipes* (Meigen, 1830)

Mouna 1998

*Cerodontha* (*Dizygomyza*) *brisiaca* Nowakowski, 1973Černý and Merz 2006, **MA**, Azrou, Ifrane*Cerodontha* (*Icteromyza*) *capitata* (Zetterstedt, 1848)Černý and Merz 2006, **Rif**, Chefchaouen*Cerodontha* (*Icteromyza*) *rozkosnyi* Černý, 2007Černý 2007, **AA**, SW Tazenakht (1000 m); Černý 2011*Cerodontha* (*Poemyza*) *incisa* (Meigen, 1830)= *Dizygomyza incisa* Meigen, in Séguéy 1936b: 5; Mouna 1998: 84Séguéy 1936b, **AP**, Rabat; Mouna 1998*Cerodontha* (*Poemyza*) *lateralis* (Macquart, 1835)= *Dizygomyza lateralis* Macquart, in Séguéy 1936: 5; Mouna 1998: 84Séguéy 1936b, **AP**, Rabat; Mouna 1998; Černý et al. 2020*Cerodontha* (*Poemyza*) *pygmaea* (Meigen, 1830)= *Dizygomyza pygmaea* Meigen, in Séguéy 1936: 5; Mouna 1998: 84Séguéy 1936b, **AP**, Rabat; Mouna 1998***Chromatomyia* Hardy, 1849***Chromatomyia aprilina* (Goureau, 1851)Griffiths 1974; Spencer 1967, **Rif**, Tanger (mountains)*Chromatomyia horticola* (Goureau, 1851)= *Phytomyza horticola* Goureau, in Griffiths 1967: 14Griffiths 1967, **AP**, Casablanca; Spencer 1973; Černý 2009*Chromatomyia milii* (Kaltenbach, 1864)= *Phytomyza milii* Kaltenbach, in Séguéy 1936: 5; Mouna 1998: 84

- Séguy 1936b, **AP**, Rabat; Spencer 1967, **HA**, Ourika Valley; Griffiths 1980; Mouna 1998; Černý and Merz 2006
- Chromatomyia syngenesiae* Hardy, 1849  
 = *Phytomyza atricornis* Meigen, in Kozłowsky and Rungs 1932: 66; Mouna 1998: 84  
 Kozłowsky and Rungs 1932, **AP**, Rabat, Kénitra, Casablanca; Mouna 1998; **AP** (Rabat) – MISR
- Liriomyza* Mik, 1894**
- Liriomyza bryoniae* (Kaltenbach, 1858)  
 Spencer 1967, 1973, **AP**, Casablanca; Ayoub 2002, **AA**, Souss Massa, Agadir; Černý and Merz 2006
- Liriomyza cicerina* (Rondani, 1874)  
 Spencer 1973, **HA**; Lahmar and Zeouienne 1992; Mouna 1998
- Liriomyza congesta* (Becker, 1903)  
 Černý et al. 2020, **AA**, River bed of Ougni, 0.6 km N Akka N'Ait Sidi and 1.8 km NW Tissint (582 m), River Aoulouz (= Asif Tifnout), bridge of road (697 m), River Oued Draa near hotel, Gardin Oued Tamnougalt (911 m)
- Liriomyza huidobrensis* (Blanchard, 1926)  
 Hanafi and Schnitzler 2004, **AA**, Souss Valley
- Liriomyza orbona* (Meigen, 1830)  
 = *Agromyza fuscolumbata* Strobl, 1900, in Maarouf 2003: 43  
 = *Liriomyza orbonella* Hendel, 1931, in Maarouf 2003: 43  
 Maarouf 2003, **HA**, Chaouia
- Liriomyza pedestris* Hendel, 1931  
 Spencer 1967, **Rif**, Tanger; Černý and Merz 2006; Černý and Merz 2007; Černý 2019; Černý et al. 2020
- Liriomyza pusilla* (Meigen, 1830)  
 = *Agromyza pusilla* Meigen, in Mouna 1998: 84  
 Mouna 1998
- Liriomyza sonchi* Hendel, 1931  
 Spencer 1967, **AP**, Casablanca
- Liriomyza trifolii* (Burgess in Comstock, 1880)  
 Hanafi and Schnitzler 2004, **AA**, Souss Valley
- Napomyza* Westwood, 1840**
- Napomyza cichorii* Spencer, 1966  
 Černý and Merz 2006, **MA**, Ifrane; Černý 2009
- Napomyza lateralis* (Fallén, 1823)  
 Černý and Merz 2006, **MA**, Ifrane
- Napomyza scrophulariae* Spencer, 1966  
 Černý and Merz 2006, **MA**, Ifrane; Černý and Merz 2007; Černý 2012, 2013
- Phytoliriomyza* Hendel, 1931**
- Phytoliriomyza immoderata* Spencer, 1963

- Černý and Merz 2006, **MA**, Azrou, Ifrane; Černý 2009; Černý 2019; Černý et al. 2020
- Phytoliriomyza oasis* (Becker, 1907)  
Spencer 1967, **HA**; Černý and Merz 2006
- Phytomyza* Fallén, 1810**
- Phytomyza conyzae* Hendel, 1920  
Spencer 1967, **Rif**, Tanger; Černý 2009
- Phytomyza ferulae* Hering, 1927  
Spencer 1967, **Rif**, Tanger; Černý 2013; Černý et al. 2020
- Phytomyza gymnostoma* Loew, 1858  
Mouna 1998; **AP** (Mechra el kettane) – MISR
- Phytomyza orobanchia* Kaltenbach, 1864  
Geipert 1993; Geipert et al. 1994, **Rif**; Klein 1995; Klein et al. 1995; Boumezzough 1996, **MA**, Saiss, Rommani; Boughdad et al. 1997; Klein et al. 1999; Kroschel and Klein 1999; Yazough and Klein 1999; Kroschel and Klein 2003
- Phytomyza phillyreae* Hering in Buhr, 1930  
= *Phytomyza unedo* Séguy, 1953, in Séguy 1953b: 72  
Séguy 1953b, **AP**, Korifla; Spencer 1967, **HA**, Ourika Valley; Černý and Merz 2006; Černý 2009
- Phytomyza ranunculi* (Schrank, 1803)  
Spencer 1967, **HA**; Černý and Merz 2006; Černý 2009, 2013
- Phytomyza wahlgreni* Rydén, 1944  
Černý and Merz 2006, **MA**, Azrou, Ifrane; Černý et al. 2020
- Pseudonapomyza* Hendel, 1920**
- Pseudonapomyza atra* (Meigen, 1830)  
= *Phytomyza acuticornis* Loew, 1858, in Maarouf 2003: 43  
Maarouf 2003, **HA**, Chaouia
- Pseudonapomyza atratula* Zlobin, 2003  
Černý et al. 2020, **AA**, 6 km ESE Quijjane, 85 km S Agadir (353 m)
- Pseudonapomyza bifida* Zlobin, 2003  
Černý et al. 2020, **AA**, Road no. 109/165 from Akna to Taroudant (841 m)
- Pseudonapomyza spicata* (Malloch, 1914)  
Černý et al. 2020, **AA**, River bed of Ougni, 0.6 km N Akka N'Ait Sidi and 1.8 km NW Tissint (582 m)
- Pseudonapomyza spinosa* Spencer, 1973  
Maarouf 2003, **HA**, Chaouia

### New record for Morocco

- Aulagromyza hamata* (Hendel, 1932)  
High Atlas: Asni-Ouirgane, 31°13'52"N, 8°00'8"W, 1282 m a.s.l., 1♂, 24.iv.2014, river valley, V. Vrabec leg., M. Barták coll. and M. Černý det.

**ANTHOMYZIDAE**

K. Kettani, M.J. Ebejer

Number of species: **2**. Expected: 4

Faunistic knowledge of the family in Morocco: poor

***Amygdalops* Lamb, 1914**

*Amygdalops thomasseti* Lamb, 1914

Ebejer et al. 2019, **Rif**, Stehat (0 m)

***Anagnota* Becker, 1902**

*Anagnota major* Roháček & Freidberg, 1993

Roháček 2006, **HA**, Marrakech (1000 m)

**ASTEIIDAE**

K. Kettani, M.J. Ebejer

Number of species: **5**. Expected: 10

Faunistic knowledge of the family in Morocco: poor

**Asteiinae*****Asteia* Meigen, 1830**

*Asteia amoena* Meigen, 1830

Mouna 1998; **AP** (Rabat) – MISR

*Asteia ibizana* (Enderlein, 1935)

Ebejer et al. 2019, **AP**, Larache (2 m)

*Asteia mahunkai* Papp, 1979

Ebejer et al. 2019, **AP**, Larache (2 m)

***Phlebosotera* Duda, 1927**

*Phlebosotera clypeata* Freidberg & Carles-Tolrá, 2010

Freidberg and Carles-Tolrá 2010, **HA**, Jaffar river

*Phlebosotera mirabilis* Papp, 1972

Ebejer et al. 2019, **AA**, 12 km S of Rissani (737 m)

**AULACIGASTRIDAE**

K. Kettani, M.J. Ebejer

Number of species: **1**. Expected: 2

Faunistic knowledge of the family in Morocco: poor

***Aulacigaster* Macquart, 1835**

*Aulacigaster leucopeza* (Meigen, 1830)

Ebejer et al. 2019, **Rif**, Jebel Lakraâ (Talassemiane, 1541 m)

**CLUSIIDAE**

K. Kettani, M.J. Ebejer

Number of species: **1**. Expected: 3

Faunistic knowledge of the family in Morocco: poor

***Clusiodes* Coquillett, 1904**

*Clusiodes verticalis* (Collin, 1912)

Ebejer et al. 2019, **Rif**, Amsemlil bog (PNPB, 1067 m)

**ODINIIDAE**

K. Kettani, M.J. Ebejer

Number of species: **2**. Expected: 3

Faunistic knowledge of the family in Morocco: poor

## Odiniinae

***Odinia* Robineau-Desvoidy, 1830**

*Odinia boletina* (Zetterstedt, 1848)

Séguy 1934a; Mouna 1998; Gaimari and Mathis 2011

*Odinia meijerei* Collin, 1952

Ebejer et al. 2019, **Rif**, Adrou (PNPB, 556 m)

**OPOMYZIDAE**

K. Kettani, M.J. Ebejer

Number of species: **5**. Expected: 6

Faunistic knowledge of the family in Morocco: moderate

***Geomyza* Fallén, 1810**

*Geomyza apicalis* (Meigen, 1830)

Pârvu et al. 2006, **MA**, Ifrane; Popescu-Mirceni 2011, **AP**, Merja Zerga

*Geomyza combinata* (Linnaeus, 1767)

Mouna 1998; **AP** (Maâmora) – MISR

*Geomyza tripunctata* (Fallén, 1823)

Maarouf 2003, **HA**, Chaouia

***Opomyza* Fallén, 1820**

*Opomyza florum* (Fabricius, 1794)

Maarouf 2003, **HA**, Chaouia

*Opomyza petrei* Mesnil, 1934

Ebejer et al. 2019, **Rif**, Aïn Tissemlal (Azilane, 1255 m)



## Carnoidea

### CANACIDAE

K. Kettani, L. Munari

Number of species: **15**. Expected: 25

Faunistic knowledge of the family in Morocco: poor

#### Canacinae

##### ***Canace* Haliday in Curtis, 1837**

*Canace actites* Mathis, 1982

Ebejer et al. 2019, **AP**, Loukous (2 m)

*Canace nasica* Haliday, 1839

Dahl 1964, **AA**, Tamri (north of Agadir); Mouna 1998

##### ***Xanthocanace* Hendel, 1914**

*Xanthocanace ranula* (Loew, 1874)

Munari 2010, **AP**, 40 km S Larache; Munari and Mathis 2010; Munari 2011; Munari and Bramuzzo 2018, **Rif**, Briyech, **AP**, Azemmour, El Khaoucha, Fedala, Oued Nefifikh, Oued Loukous, 40 km S Larache

#### Tethininae

##### ***Tethina* Haliday in Curtis, 1837**

*Tethina alboguttata* (Strobl, 1900)

Freidberg and Beschovski 1996, **AP**, Aïn Diab, Essaouira, Safi, **AA**, Agadir, Ouarzazate; Mathis and Munari 1996; Munari 2002, 2004, 2005, 2011; Munari and Mathis 2010; Koçak and Kemal 2010; Munari and Bramuzzo 2018, **Rif**, Briyech, **AP**, Agadir, Tamri, Essaouira, Cap Hadid, Larache, Loukous, Safi, Dar Caïd-Hadji

*Tethina albosetulosa* (Strobl, 1900)

Cassar et al. 2008, **Rif**, Oued Laou Basin

*Tethina flavigenis* (Hendel, 1934)

Munari and Bramuzzo 2018, **AP**, Oued Oum-er-Rbia

*Tethina grossipes* (Becker, 1908)

Munari 2004, **AA**, Agadir; Munari and Mathis 2010; Munari and Bramuzzo 2018, **AP**, Tamri

*Tethina incisuralis* (Macquart, 1851)

= *Tethina pictipes* (Becker 1903); Séguy 1941d: 18, Mouna 1998: 87

Munari 1997, **AA**, Erfoud, Rissani (900 m); Munari 2002, 2010, 2011; Munari and Mathis 2010; Munari and Bramuzzo 2018, **AA**, Erfoud, Rissani

*Tethina longirostris* (Loew, 1865)

Cassar et al. 2008, **Rif**, Oued Laou Basin

*Tethina mariae* Munari, 1997

Munari 1997, **AP**, 40 km S Larache; Munari and Báez 2000; Munari 2002, 2004, 2010, 2011; Munari and Mathis 2010 – NHMD (HT ♂)

*Tethina pallipes* (Loew, 1865)

= *Tethina ochracea* (Hendel, 1913)

Cassar et al. 2008, **Rif**, Oued Laou

*Tethina pictipennis* Freidberg & Beschovski, 1996

Freidberg and Beschovski 1996, **AP**, 40 km south of Larache; Mathis and Munari 1996, Munari 2002; Munari 2004; Munari and Mathis 2010; Munari 2011, **AA**, Agadir (Tamri); Munari and Bramuzzo 2018, **Rif**, Briyech, **AP**, Tamri, Larache, Loukous – NHMD (HT ♂)

*Tethina strobliana* (Mercier, 1923)

Munari and Bramuzzo 2018, **AP**, Oued Abou, Rehouna (Rabat)

*Tethina yaromi* Freidberg & Beschovski, 1996

Cassar et al. 2005, **Rif**, Smir lagoon

*Tethina* sp. near *salinicola* Beschovski, 1998

Munari 2004, **AA**, Agadir, Ouarzazate; Munari 2005; Munari and Bramuzzo 2018, **AP**, Tamri

**CARNIDAE**

K. Kettani, M.J. Ebejer

Number of species: **3**. Expected: >10

Faunistic knowledge of the family in Morocco: poor

***Meoneura* Rondani, 1856***Meoneura hungarica* Papp, 1977

Ebejer et al. 2019, **Rif**, Adrou (PNPB, 556 m)

*Meoneura prima* Becker, 1905

Brake 2011

*Meoneura triangularis* Collin, 1930

Brake 2011

**CHLOROPIDAE<sup>48</sup>**

K. Kettani, M. von Tschirnhaus, M.J. Ebejer

Number of species: **74**. Expected: 140

Faunistic knowledge of the family in Morocco: moderate

<sup>48</sup> Many species (*Chlorops pumilionis*, *Eutropha albipilosa*, *Meromyza athletica*, *Meromyza curvinervis*, *Elachiptera cornuta*, *Oscinisoma cognatum*) are cited only on the basis of the list of Diptera species present in the collections of the MISR (Rabat, Morocco) published by Mouna (1998). The identification of this material could not be verified. However, the presence of most of these species is possible in Morocco.

## Chloropinae

***Assuania* Becker, 1903**

*Assuania melanoleuca* (Séguy, 1949) **comb. nov.**<sup>49</sup>

= *Chlorops melanoleuca* Séguy, in Séguy 1949a: 158

Séguy 1949a, **AA**, Agdz; Nartshuk 1984; Mouna 1998

*Assuania thalhammeri* (Strobl, 1893)

Ebejer and Kettani 2016, **AA**, Oued Ziz (9.5 km SE of Rich, 1285 m)

***Camarota* Latreille, 1805**

*Camarota curvipennis* (Latreille, 1805)

= *Camarota curvipennis* (Latreille), in Becker and Stein 1913: 93

Becker and Stein 1913, **Rif**, Tanger; Nartshuk 1984; Ebejer and Kettani 2016, **Rif**, Oued Laou

***Capnoptera* Loew, 1866**

*Capnoptera pilosa* Loew, 1866

Duda 1933; Ebejer and Kettani 2016, **Rif**, Jebel Lakraâ (Talassemthane, 1288 m), Aïn Jdioui (Tahaddart, 8 m)

*Capnoptera scutata* (Rossi, 1790)

= *Eristalis rufipes* Fabricius, in Fabricius 1805: 245

Ebejer and Kettani 2016, **AP**, Larache (2 m)

***Cetema* Hendel, 1907**

*Cetema maroccanum* Nartshuk, 1995

= *Cetema maroccana* Nartshuk, in Nartshuk 1995: 277–280

Nartshuk 1995, **HA**, Oukaïmeden; Ebejer and Kettani 2016

*Cetema monticulum* Becker, 1910

= *Cetema monticula* Becker, in Séguy 1941a: 33

= *Cetema monticula* Rossi, in Mouna 1998: 85

Séguy 1941a, **HA**, Tachdirt (Toubkal, 2500 m); Mouna 1998; Ebejer and Kettani 2016

***Chlorops* Meigen, 1803**

*Chlorops interruptus* Meigen, 1830

= *Chlorops interrupta* Meigen, in Séguy 1953a: 86

Séguy 1953a, **AP**, Oued Yquem (near Rabat); Ebejer and Kettani 2016, **Rif**, Jebel Lakraâ (Talassemthane, 1288 m), Oued Aliane (Ksar Sghir, 1 m), Cap Spatel (155 m)

*Chlorops limbatus* Meigen, 1830

Ebejer and Kettani 2016, **Rif**, Jebel Moussa (800 m)

<sup>49</sup> *Assuania melanoleuca* comb. nov.: a female type specimen of *Chlorops melanoleucus* is a species of *Assuania* (Nartshuk, pers. comm.), see also Ebejer and Kettani (2016: 226). It may belong to *A. thalhammeri* with its three synonyms *A. glabra* Becker, 1903, *A. frontata* Becker, 1907, and *A. siciliensis* Duda, 1933 or to one of the further five *Assuania* spp. (Sabrosky 1980: 707) present on the African continent. Dawah and Abdullah (2006: 30) and Deeming and Al-Dhafer (2012: 56, 88) reported an unidentifiable species from the Arabian Peninsula. Until a revision of this genus is made, *A. melanoleuca* must be treated as a valid taxon.

*Chlorops pumilionis* (Bjerkander, 1778)

= *Chlorops nasuta* Schrank, in Mouna 1998: 85

Mouna 1998; Ebejer and Kettani 2016

*Chlorops serenus* Loew, 1866

Ebejer and Kettani 2016, **MA**, 17 km NW of Zaida (Khénifra, 1878 m)

***Cryptonevra* Lioy, 1864**

*Cryptonevra flavitarsis* (Meigen, 1830)

= *Haplegis flavitarsis* (Meigen), in Séguy 1949a: 158; Séguy 1953a: 86; Mouna 1998: 85

Séguy 1949a, **AA**, Agdz; Séguy 1953a, **AP**, Oued Yquem (near Rabat); Nartshuk 1984; Mouna 1998; Ebejer and Kettani 2016

***Eurina* Meigen, 1830**

*Eurina lurida* Meigen, 1830

Ebejer and Kettani 2016, **Rif**, M'Diq, Smir, Kabila beach and dunes

***Eutropha* Loew, 1866**

*Eutropha albipilosa* (Becker, 1908)

Duda 1930; Deeming and Al-Dhafer 2012, **AP**, 17 km N of Larache, **AA**, Azemmour, estuary of Oued Tensift; Ebejer and Kettani 2016, **AP**, Larache (5 m)

*Eutropha fulvifrons* (Haliday, 1833)

Séguy 1941d, **AA**, Agadir; Mouna 1998; Cassar et al. 2005, **Rif**, Smir lagoon; Ebejer and Kettani 2016, **AP**, Larache (5 m)

***Lagaroceras* Becker, 1903**

*Lagaroceras andalusiaca* (Strobl, 1899)

Ebejer and Kettani 2016, **Rif**, Ksar El Kebir (13 m), Oued Aliane (Ksar Sghir, 1 m), **AP**, Larache (2 m), **AA**, Oued Ziz (9.5 km SE of Rich, 1285 m)

***Lasiosina* Becker, 1910**

*Lasiosina herpini* (Guérin-Méneville, 1843)

= *Lasiosina cinctipes* Meigen, in Mouna 1998: 85

Ebejer and Kettani 2016, **Rif**, Smir lagoon

*Lasiosina lindbergi* (Duda, 1933)

= *Steleocerus lindbergi* (Duda), in Duda 1933: 142

Duda 1933, **MA**; Ebejer and Kettani 2016, **AA**, Oued Ziz (9.5 km SE of Rich, 1285 m)

***Meromyza* Meigen, 1830**

*Meromyza athletica* Fedoseeva, 1974

= *Meromyza variegata* Meigen, in Mouna 1998: 85

Mouna 1998; Ebejer and Kettani 2016

*Meromyza curvinervis* (Zetterstedt, 1848)

= *Oxinis curvinervis* Latreille, in Mouna 1998: 85

Mouna 1998

*Meromyza nigriventris* Macquart, 1835

Ebejer and Kettani 2016, **MA**, 17 km SW of Midelt (Khénifra, 1940 m), **AA**, 29 km N of Rich (Errachidia, 1570 m)

*Meromyza pratorum* Meigen, 1830

Séguy 1941a, **HA**, Tachdirt (Toubkal, 2500 m); Mouna 1998; Ebejer and Kettani 2016

***Metopostigma* Becker, 1903***Metopostigma sabulona* Becker, 1910

Ebejer and Kettani 2016, **AA**, Oued Ziz (10 km S of Errachidia, 1008 m), Merzouga (714 m)

***Platycephala* Fallén, 1820***Platycephala scapularum* (Becker, 1907)

Nartshuk 1984; Pârvu et al. 2006, **AA**, Lac Edehby, Ouarzazate; Popescu-Mir-ceni 2011; Ebejer and Kettani 2016

***Pseudopachychaeta* Strobl, 1902***Pseudopachychaeta pachycera* Strobl, 1902

Ebejer and Kettani 2016, **AA**, Oued Ziz (9.5 km SE of Rich, 1285 m), Oued Ziz (1052 m)

***Thaumatomyia* Zenker, 1833***Thaumatomyia elongatula* (Becker, 1910)

Ebejer and Kettani 2016, **Rif**, Beni Maâdene (Oued Martil, 3 m)

*Thaumatomyia glabra* (Meigen, 1830)

Ebejer and Kettani 2016, **Rif**, Martil (9 m)

*Thaumatomyia notata* (Meigen, 1830)

= *Chloropisca notata* (Meigen), in Séguy 1930a: 179, 1941a: 33; Mouna 1998: 85 Séguy 1930a, **Rif**, Tanger; Séguy 1941a, **HA**, Tachdirt (Jebel Toubkal, 2500 m), Canyon Tessaout (M'Goum, 3000–3200 m); Harris et al. 1980: 229, **HA**, Chichaoua; Mouna 1998; Ebejer and Kettani 2016, **Rif**, Oued Laou estuary, Oued Amsa (Amsa, 14 m), Jnane Niche (27 m), Oued Maggou (Maggou, 786 m), Marj Khayl (Beni Leit (PNPB), 1088 m), Oued Boumarioul (Aïn Hamra, 560 m), Aïn Tissemlal (Azilane, 1255 m), Oued Bouhya (Bou Ahmed, 19 m), Souk Khemis Anjra (Oued Kbir, 55 m), Zinat (231 m), Oued Zarka (Yarghite, 135 m), Oued Talembote (Usine électrique, 120 m), Oued Kelâa (Akoumi, 400 m), Issaguen (maison forestière Issaguen, 1543 m), Bni Boufrah (94 m), Oued Guallet (Bni Boufrah, 946 m), Oued Tabandoute (Bni Boufrah, 540 m), Oued Taâouniya (Koudiat Ajira, 1536 m), Talankramte (Site sacré Sidi Gneiss (PNPB): 461 m), **AP**, Larache (5 m)

*Thaumatomyia sulcifrons* (Becker, 1907)

= *Chlorops sulcifrons* Becker, in Séguy 1949a: 158

= *Chloropisca sulcifrons* Zetterstedt, in Mouna 1998: 85

Séguy 1934a; Séguy 1949a, **AA**, Foug-el-Hassan, Akka, Agdz; Nartshuk 1984; Mouna 1998; Dawah and Abdullah 2006; Ebejer and Kettani 2016

## Oscinellinae

***Aphanotrigonum* Duda, 1932***Aphanotrigonum cinctellum* (Zetterstedt, 1848)

- Ebejer and Kettani 2016, **AP**, Larache (5 m)  
*Aphanotrigonum femorellum* Collin, 1946  
 Ebejer and Kettani 2016, **AP**, Larache  
*Aphanotrigonum inerme* Collin, 1946  
 Ebejer and Kettani 2016, **Rif**, M'Diq (5 m), **AP**, Larache (Loukous marsh, 2 m)  
*Aphanotrigonum parahastatum* Dely-Draskovits, 1981\*
- AA**
- Calamoncosis* Enderlein, 1911**  
*Calamoncosis duinensis* (Strobl, 1909)  
 Ebejer and Kettani 2016, **AP**, Rabat (on *Phragmites*) – MISR
- Conioscinella* Duda, 1929**  
*Conioscinella frontella* (Fallén, 1810)  
 Ebejer and Kettani 2016, **Rif**, Aïn Tissemlal (Azilane, 1255 m)  
*Conioscinella sordidella* (Zetterstedt, 1848)  
 Ebejer and Kettani 2016, **Rif**, Aïn Tissemlal (Azilane, 1255 m)
- Elachiptera* Macquart, 1835**  
*Elachiptera bimaculata* (Loew, 1845)  
 De Lépiney and Mimeur 1932: 110, Rabat; Séguy 1934a: 479; Bléton and Fieuzet 1943; Nartshuk 1984; Mouna 1998; Ebejer and Kettani 2016, **Rif**, Beni Maâdene (Oued Martil: 3 m), Jnane Niche (46 m), Oued Mhannech (18 m), Souk Khemis Anjra (55 m), Boujdad (7 m); **AP** (Rabat) – MISR  
*Elachiptera cornuta* (Fallén, 1820)  
 Mouna 1998: 85  
*Elachiptera diastema* Collin, 1946  
 Ebejer and Kettani 2016, **Rif**, Jebel Lakraâ (Talassemthane, 1541 m), Aïn Tissemlal (Azilane, 1255 m), Oued Maggou (Maggou, 786 m), Oued Tiffert (Tiffert, 1230 m), Issaguen (1543 m), **AP**, Larache (5 m)  
*Elachiptera graeca* Becker, 1910  
 Séguy 1941, **HA**, Imi-n'Ouaka (1500 m); Nartshuk 1984; Mouna 1998  
*Elachiptera megaspis* (Loew, 1858)  
 Nartshuk 1984; Mouna 1998; Ebejer and Kettani 2016, **Rif**, Dardara (730 m), Aïn Jdioui (Tahaddart, 8 m), Jnane Niche (46 m), Aïn Tissemlal (Azilane, 1255 m), Oued Maggou (Maggou, 786 m); **AP** (Rabat) – MISR  
*Elachiptera orizae* Séguy, 1949\*
- AA**
- Elachiptera rufescens* (Walker, 1871)  
 Deeming and Al-Dhafer 2012, **AA**, 2 km N Erfoud (818 m); Ebejer and Kettani 2016, **AA**, 2 km N Erfoud (818 m)  
*Elachiptera rufifrons* Duda, 1932  
 Ebejer and Kettani 2016, **AP**, 9 km SE Aïn Chouk (6 m), Larache (5 m)  
*Elachiptera sarda* Nartshuk, 2009  
 Ebejer and Kettani 2016, **AA**, 14 km E of Rich (Errachidia, 1278 m)  
*Elachiptera scrobiculata* (Strobl, 1901)  
 = *Elachiptera trapezina* (Corti, 1909), in Bléton and Fieuzet 1943: 116

Bléton and Fieuzet 1943; Ebejer and Kettani 2016

*Elachiptera strobli* (Corti, 1909)

Ebejer and Kettani 2016, **Rif**, Oued Boumarioul (Aïn Hamra, 560 m), Oued Aliane (Ksar Sghir, 1 m); Cap Spartel (155 m), Oued Sidi Ben Saâda (Laghdir, 242 m)

***Epimadiza* Becker, 1910**

*Epimadiza nigrescens* Duda, 1933<sup>50</sup>

= *Oscinosoma anthracias* Séguy, in Séguy 1949a: 158, Mouna 1998: 85

= *Oxinosoma anthracias* Séguy, in Mouna 1998: 85

= "*Siphonella oscinina* (Fallén)", in Nartshuk 1984: 236

Séguy 1949a, **AA**, Alnif; Sabrosky 1965: 406; Nartshuk 1984; Mouna 1998; Ebejer and Kettani 2016

***Hapleginella* Duda, 1933**

*Hapleginella laevifrons* (Loew, 1858)

El Hassani et al. 1986: 8–11, **Rif**, Nord Occidental, **MA**

***Lasiochaeta* Corti, 1909**

*Lasiochaeta pubescens* (Thalhammer, 1898)

= *Elachiptera pubescens* (Thalhammer), var. *rufithorax* Duda, 1932 in Duda 1932: 31

= *Melanochaeta pubescens* Thalh., in De Lépiney and Mimeur 1932: 110

= *Melanochaeta pubescens* (Thalhammer), in Mouna 1998: 85

De Lépiney and Mimeur 1932, **AP**, Rabat; Duda 1932: 31, **HA**; Nartshuk 1984; Mouna 1998; Ebejer and Kettani 2016, **Rif**, Oued Sidi Yahia Aarab (Sidi Yahia Aarab, 178 m), Beni Maâdene (Oued Martil, 3 m), Oued Mhannech (Tamuda, 18 m), Oued Amsa (Amsa, 14 m), Zinat (231 m), Oued Maggou (Maggou, 786 m), Oued Guallet (Bni Boufrah, 946 m); **AP** (Rabat) – MISR

***Oscinella* Becker, 1909**

*Oscinella cariciphila* Collin, 1946

Ebejer and Kettani 2016, **Rif**, Beni Maâdene (Oued Martil, 3 m), **AA**, Merzouga (714 m)

*Oscinella frit* (Linnaeus, 1758)

= *Oxinosoma frit* Linnaeus, in Mouna 1998: 85

---

<sup>50</sup> *Epimadiza nigrescens*: Nartshuk (1984: 236) erroneously sank *Oscinosoma* [sic! misspelling of Séguy] *anthracias* Séguy, 1949 as a junior synonym of *Siphonella oscinina* (Fallén, 1820), although this synonymy had not been proposed previously. This error was clarified by Ebejer and Kettani (2016: 227) after correspondence with Nartshuk, but the puzzle increased as the latter authors introduced *O. anthracias* as a new junior synonym of *Polyodaspis ruficornis* after personal correspondence of MJE with E.P. Nartshuk who had examined the type of *O. anthracias* in the year 2001. Both had overlooked the hidden synonymisation of *Oscinisoma anthracias* with *Epimadiza nigrescens* by Sabrosky (1965: 406), cited by Sabrosky (1980: 699) and by Dawah and Abdullah (2006: 26). Séguy did not mention in his description if he had only one male or more. Sabrosky may have studied a male other than the one studied by Nartshuk. The type(s) of *O. anthracias* should be examined again. If there is more than one specimen this might explain why two different senior taxa resulted. Here we follow the oldest examination of a type specimen by Sabrosky.

- De Lépiney and Mimeur 1932: 109, **AP**, Rabat; Mouna 1998; Ebejer and Kettani 2016, **Rif**, Issaguen (1543 m), Aïn Tissemlal (Azilane, 1255 m), Oued Maggou (Maggou, 786 m), Oued Guallet (Bni Boufrah, 946 m), Oued Ametrasse (Ametrasse, 841 m), **AP**, Lower Loukous saltmarsh (2 m), **MA**, Khénifra (17 km SW of Midelt, 1940 m), Lac Aguelmane Afennourir (30 km SW of Azrou, 1490 m); **AP** (Rabat) – MISR
- Oscinella nartshukiana* Beschovski, 1978  
Ebejer and Kettani 2016, **Rif**, Ksar El Kebir (13 m), **AP**, Larache
- Oscinella nitidigenis* (Becker, 1908)  
Ebejer and Kettani 2016, **AA**, 6 km N of Errachidia (1010 m), Oued Ziz (1052 m)
- Oscinella nitidissima* (Meigen, 1838)  
Ebejer and Kettani 2016, **Rif**, Dardara (730 m), Moulay Abdelsalam (965 m), Cap Spartel (155 m), Oued Laou (dunes, 2 m), **AP**, Larache (5 m), **MA**, Lac Aguelmane Afennourir (30 km SW of Azrou, 1490 m)
- Oscinella pusilla* (Meigen, 1830)  
Ebejer and Kettani 2016, **AA**, Lac Tiffert (4 km W of Merzouga, 702 m)
- Oscinella ventricosi* Nartshuk, 1955  
Ebejer and Kettani 2016, **Rif**, Oued Boumarioul (Aïn Hamra, 560 m), **AP**, Larache (5 m)
- Oscinella vindicata* (Meigen, 1830)  
Ebejer and Kettani 2016, **AP**, Larache (5 m), **AA**, Merzouga (agriculture under date palms, 714 m)
- Oscinimorpha* Liroy, 1864**
- Oscinimorpha arcuata* (Duda, 1932)  
Ebejer and Kettani 2016, **Rif**, Oued Guallet (Bni Boufrah, 946 m), Oued Jnane Azaghar (Bni Boufrah, 997 m)
- Oscinimorpha longirostris* (Loew, 1858)  
Ebejer and Kettani 2016, **Rif**, Ksar El Kebir (13 m)
- Oscinimorpha minutissima* (Strobl, 1900)  
= *Siphonella minutissima* Strobl, in Becker and Stein 1913: 93  
Becker and Stein 1913, **Rif**, Tanger; Nartshuk 1984; Ebejer and Kettani 2016, **Rif**, Dardara (484 m)
- Oscinimorpha novakii* (Strobl, 1893)  
= *Conioscinella novakii* (Strobl), in Duda 1933: 58  
Duda 1933; Ebejer and Kettani 2016
- Oscinisoma* Liroy, 1864**
- Oscinisoma cognatum* (Meigen, 1830)  
= *Oscinis rufipes* Meigen, 1830, with homonym *Oscinis rufipes* Wiedemann 1830: 580, in Wiedemann 1830: 580, Tanger; synonymy and probable specific identity of homonyms established by Becker 1910: 166, but without considering the similar *Oscinisoma gilvipes* (Loew, 1858).



***Polyodaspis* Duda, 1933<sup>51</sup>***Polyodaspis sulcicollis* (Meigen, 1838)= *Siphonella sulcicollis* (Meigen), in Kroschel and Klein 1999: 138Kroschel and Klein 1999; Ebejer and Kettani 2016, **MA**, Khénifra (17 km SW of Midelt, 1940 m)***Pselaphia* Becker, 1911***Pselaphia dimidiocera* Ebejer & Kettani, 2016Ebejer and Kettani 2016, **Rif**, Adrou (Taghzout, 556 m) – NMWC***Rhodesiella* Adams, 1905***Rhodesiella fedtshenkoi* Nartshuk, 1978Deeming and Al-Dhafer 2012, **SA**, Goulimine (Bou Jarif); Ebejer and Kettani 2016, **Rif**, Smir lagoon, Oued Laou (saltmarsh), Jnane Niche (46 m)***Sabroskyina* Beschovski, 1987***Sabroskyina aharonii* (Duda, 1933)Ebejer and Kettani 2016, **AA**, 2 km N Erfoud (818 m)***Siphunculina* Rondani, 1856***Siphunculina ornatifrons* (Loew, 1858)= *Microneurum ornatifrons* (Loew), in Duda 1933: 98Becker and Stein 1913, **Rif**, Tanger; Duda 1933; Nartshuk 1984; Ebejer and Kettani 2016, **Rif**, Martil (9 m), Oued Mhannech (Tamuda, 18 m), Jnane Niche (27 m), **AP**, Aïn Chouk 9 km SE (6 m), Larache (5 m)***Trachysiphonella* Enderlein, 1936***Trachysiphonella ruficeps* (Macquart, 1835)Ebejer and Kettani 2016, **AA**, 29 km N of Rich (Errachidia, 1570 m)***Tricimba* Lioy, 1864***Tricimba cincta* (Meigen, 1830)Ebejer and Kettani 2016, **Rif**, Dardara (484 m)*Tricimba heratica* Dely-Draskovits, 1983\***AA***Tricimba humeralis* (Loew, 1858)= *Tricimba punctifrons* Becker, in Becker and Stein 1913: 93= *Tricimba humeralis* (Loew), in Séguy 1941d: 18, 1957: 273; Mouna 1998: 85Becker and Stein 1913, **Rif**, Tanger; Séguy 1941d, **AA**, Agadir; Séguy 1957, **AA**, Agadir; Nartshuk 1984; Mouna 1998; Ebejer and Kettani 2016, **Rif**, Oued Mhannech (Tamuda, 18 m), Aïn Tissemlal (Azilane, 1255 m), Oued Bouhya (Bou Ahmed, 19 m), **AA**, Oued Ziz (9.5 km SE of Rich, 1285 m), Oued Ziz (13 km N of Erfoud, 800 m)

---

<sup>51</sup> *Polyodaspis ruficornis* (Macquart), a widely distributed species, was reported by Ebejer and Kettani (2016) only on the basis of the literature, but as explained in footnote 38 it must be deleted from the list of Moroccan Diptera as the cited records are based on an earlier misidentification.

## Siphonellopsinae

***Apotropina* Hendel, 1907***Apotropina longepilosa* (Strobl, 1893)Ebejer and Kettani 2016, **Rif**, Oued Sidi Ben Saâda (Laghdar, 242 m), Oued Kbir (Dardara, 345 m), Oued Siflaou (281 m), Jnane Niche (46 m)***Siphonellopsis* Strobl, 1906***Siphonellopsis lacteibasis* Strobl, 1906

Séguy 1934a: 482; Nartshuk 1984; Mouna 1998

**New records for Morocco***Aphanotrigonum parahastatum* Dely-Draskovits, 1981

Anti Atlas: Ougui river, 1.8 km NW Tissint, 29°55'03"N, 7°19'56"W, 582 m, 30.xii.2016, 3♂♂3♀♀, M. von Tschirnhaus det. – ZSM (M. von Tschirnhaus leg.).

*Elachiptera orizae* Séguy, 1949

Anti Atlas: river Aoulouz up stream of Idrane, 30°44'11"N, 7°59'13"W, 866 m, 31.xii.2016, 1♂, M. von Tschirnhaus det. – ZSM (M. von Tschirnhaus leg.).

*Tricimba heratica* Dely-Draskovits, 1983

Anti Atlas: Oued Souss, streamup of Idrane, 30°44'11"N, 7°59'13"W, 866 m, 31.xii.2016, 1♀ (males are needed to confirm the identification), M. von Tschirnhaus det. – ZSM (M. von Tschirnhaus leg.).

**MILICHIIDAE**

K. Kettani

Number of species: **8**. Expected: 14

Faunistic knowledge of the family in Morocco: moderate

## Madizinae

## Madizini

***Desmometopa* Loew, 1866***Desmometopa m-nigrum* (Zetterstedt, 1848)Séguy 1949a, **SA**, Guelmim; Mouna 1998; **Rif** (M'Diq), **AP** (Larache), **HA** (Tazzarin) – MISR*Desmometopa varipalpis* Malloch, 1927Ebejer et al. 2019, **AA**, 6 km N of Errachidia (1010 m)***Leptometopa* Becker, 1903***Leptometopa rufifrons* Becker, 1903Ebejer et al. 2019, **AA**, Merzouga (714 m); **AA** (Merzouga) – MISR

***Madiza* Fallén, 1810***Madiza glabra* Fallén, 1820Mouna 1998; Ebejer et al. 2019, **HA**, Anafgou (NPHAO, 2271 m)

Milichiinae

Milichiini

***Milichia* Meigen, 1830***Milichia albomaculata* (Strobl, 1900)Pont and Singh 1965; Mouna 1998; Brake 2000; Koçak and Kemal 2010;  
**HA** – NHMUK*Milichia speciosa* Meigen, 1830Séguy 1930a, **HA**, Arround (Skoutana)***Milichiella* Giglio-Tos, 1895***Milichiella lacteipennis* (Loew, 1866)Brake 2000; Raspi et al. 2009; **Rif** (M'Diq farm) – MISR

Phyllomyzinae

Phyllomyzini

***Phyllomyza* Fallén, 1810***Phyllomyza* sp. aff. *equitans* (Hendel, 1919)Ebejer et al. 2019, **AA**, Oued Ziz (12 km S of Rissani, 737 m)**Acknowledgement**

We gratefully acknowledge the cooperation of Martin J. Ebejer who contributed to the revision of this family.

**Sphaeroceroidea****CHYROMYIDAE**

K. Kettani, M.J. Ebejer

Number of species: **22**. Expected: 30

Faunistic knowledge of the family in Morocco: good

Aphaniosominae

***Aphaniosoma* Becker, 1903***Aphaniosoma approximatum* Becker, 1903Ebejer 2018, **SA**, Oued Ougni (0.6 km N of Akka, N'Aït Sidi and 1.8 km NW  
Tissint, 582 m)

- Aphaniosoma claridgei* Ebejer, 1995  
Ebejer 2016b, **Rif**, Smir lagoon
- Aphaniosoma collini* Lyneborg, 1973  
Ebejer 2016b, **AP**, Larache (5 m)
- Aphaniosoma forcipatum* Ebejer, 1998  
Ebejer 2016b, **AA**, Lac de Tiffert (4 km W of Merzouga, 702 m), Erfoud (30 km N, 894 m), Ziz river (14 km E of Rich, 1278 m)
- Aphaniosoma gatti* Ebejer, 2016  
Ebejer 2016b, **AP**, El Jadida, Azemmour; **AP** (El Jadida Azemmour) – MISR
- Aphaniosoma melitense* Ebejer, 1993  
Andrade and Almeida 2010, **Rif**, Mediterranean coast; Ebejer 2016b, **AP**, Larache (2 m)
- Aphaniosoma nigricauda* Ebejer, 1998  
Ebejer 2016b, **AA**, Lac de Tiffert (4 km W of Merzouga, 702 m), Merzouga (714 m), Ziz river (10 km S of Errachidia, 1008 m; 13 km N of Erfoud, 800 m)
- Aphaniosoma nigripes* Ebejer, 2016  
Ebejer 2016b, **AA**, Ziz river (9.5 km SE of Rich, 1285 m), Erfoud (30 km N, 894 m; **AA** (Ziz river) – MISR
- Aphaniosoma nigrum* Ebejer, 1998  
Ebejer 2016b, **AA**, Ziz river (Errachidia, 1052 m; 9.5 km SE of Rich, 1285 m), Erfoud (30 km N, 894 m); **AA** (Ziz river) – MISR
- Aphaniosoma nitidum* Ebejer, 2016  
Ebejer 2016b, **AA**, Ziz river (30 km N of Erfoud, 894 m)
- Aphaniosoma propinquans* Collin, 1949  
Ebejer 2016b, **Rif**, Smir lagoon, Oued Aliane (Ksar Sghir), **AP**, Larache (2 m); **Rif** (Oued Aliane) – MISR
- Aphaniosoma proximum* Ebejer, 1998  
Ebejer 2016b, **AP**, Larache (5 m), Sidi Smail (El Jadida), Azemmour, **HA**, Oued Tensift
- Aphaniosoma quadrinotatum* (Becker, 1904)  
Ebejer 2018, **AA**, S of village Sidi R'bat (10 m)
- Aphaniosoma rufum* Frey, 1935  
Ebejer 2018, **AA**, S of village Sidi R'bat (10 m)
- Aphaniosoma soror* Ebejer, 2016  
Ebejer 2016b, **AA**, Errachidia (14 km E of Rich, 1278 m)
- Aphaniosoma trisetum* Ebejer, 2016  
Ebejer 2016b, **AA**, Ziz river (9.5 km SE of Rich, 1285 m, 13 km N of Erfoud, 800 m, Errachidia, 1052 m), Merzouga (714 m); **AA** (Ziz river) – MISR
- Aphaniosoma zizense* Ebejer, 2016  
Ebejer 2016b, **AA**, Ziz river (Errachidia, 1052 m; 9.5 km SE of Rich, 1285 m; 10 km S of Errachidia, 1008 m); **AA** (Ziz river) – MISR

## Chyromyinae

***Chyromya* Robineau-Desvoidy, 1830***Chyromya robusta* Hendel, 1931Ebejer 2018, **AA**, S of village Sidi R'bat (10 m)***Gymnochiromyia* Hendel, 1933***Gymnochiromyia flavella* (Zetterstedt, 1848)Ebejer 2016b, **Rif**, Ksar El Kebir (13 m)*Gymnochiromyia homobifida* Carles-Tolrá, 2001Ebejer 2016b, **Rif**, maison forestière de Talassemrane (NPT)*Gymnochiromyia inermis* (Collin, 1933)

Ebejer 1998b; Ebejer 2016b

*Gymnochiromyia mihalyii* Soós, 1979Ebejer 2016b, **Rif**, Oued Siflaou (281 m), Aïn Tissemlal (Azilane, 1255 m), **AP**, Larache (5 m)*Gymnochiromyia tschirnhausi* Ebejer, 2018Ebejer 2018, **AA**, S of village Sidi R'bat (10 m)*Gymnochiromyia zernyi* (Czerny, 1929)

Ebejer 1998b; Ebejer 2016b

**HELEOMYZIDAE**

K. Kettani, A.J. Woźnica

Number of species: **19**. Expected: 30

Faunistic knowledge of the family in Morocco: moderate

## Heleomyzinae

***Gymnomus* Loew, 1863***Gymnomus atlasicus* Woźnica, 2011Woźnica 2011, **HA**, Tazzeka*Gymnomus caesius* (Meigen, 1830)Ebejer et al. 2019, **Rif**, Jebel Lakraâ (Talassemrane, 1541 m)***Neoleria* Malloch, 1919***Neoleria* sp.\***Rif**

## Heteromyzinae

***Tephrochlamys* Loew, 1862***Tephrochlamys rufiventris* (Meigen, 1830)\***AA**

## Suilliinae

***Suillia* Robineau-Desvoidy, 1830***Suillia bicolor* (Zetterstedt, 1838)\***Rif***Suillia bistrigata* (Meigen, 1830)

Ebejer et al. 2019, **Rif**, Moulay Abdelsalam (Bouhachem, 1098 m), Jebel Lakraâ (Talassemthane, 1541 m), **MA**, 6 km S of Azrou (1610 m), 20 km S of Azrou (1720 m)

*Suillia humilis* (Meigen, 1830)

= *Helomyza similis* Meigen, in Mouna 1998: 85

Mouna 1998; **AP** (Maâmora) – MISR

*Suillia notata* (Meigen, 1830)

Ebejer et al. 2019, **Rif**, Moulay Abdelsalam (Bouhachem, 1180 m), Jebel Lakraâ (Talassemthane, 1541 m), Oued Kbir (Béni Ratene, 157 m)

*Suillia oxyphora* (Mik, 1900)\***Rif***Suillia pallida* (Fallén, 1820)

Séguy 1941d, **HA**, Tizi-n'Test (2200 m); Mouna 1998

*Suillia tuberiperda* (Rondani, 1876)

Ebejer et al. 2019, **MA**, 6 km S of Azrou (1610 m)

*Suillia variegata* (Loew, 1862)

= *Helomyza variegata* Loew, in Becker and Stein 1913: 93

Becker and Stein 1913, **Rif**, Tanger; Séguy 1953a, **AP**, Sidi Yahia du Gharb; Mouna 1998

## Trixoscelidinae

***Trixoscelis* Rondani, 1856***Trixoscelis approximata* (Loew, 1865)

Cassar et al. 2008, **Rif**, Smir lagoon; **Rif**, Tétouan

*Trixoscelis baliogastra* (Černý, 1909)

Hackman 1970

*Trixoscelis canescens* (Loew, 1865)

Ebejer et al. 2019, **Rif**, Aïn Tissemlal (Azilane, 1255 m)

*Trixoscelis curvata* Carles-Tolrá, 1993

Ebejer et al. 2019, **AP**, Larache (5 m)

*Trixoscelis laeta* (Becker, 1907)

Becker 1907; Séguy 1941d, **AA**, Agadir; Hackman 1970; Mouna 1998; Cassar et al. 2008, **Rif**, Smir lagoon

*Trixoscelis mendizabali* Hackman, 1970

Hackman 1970, **AA**, Aït Melloul (Oued Souss)

*Trixoscelis pedestris* (Loew, 1865)

Ebejer et al. 2019, **Rif**, Aïn Jdioui (Tahaddart, 76 m)

### New records for Morocco

*Neoleria* sp.

Rif: Tétouan, Jebel Bouhachem (PNPB), Amsemlil, 35.26234°N, 5.43341°W, 1067 m, 11.xii.15, forest (*Pinus pinaster*), K. Kettani leg. (1♀), A.J. Woźnica det.

*Tephrochlamys rufiventris* (Meigen, 1830)

Rif: Tétouan, Jebel Bouhachem (PNPB), Remla, 35.236865, -5.408025, 961 m, 22.iv.18, forest (*Pinus pinaster*), K. Kettani leg. (1♀), A.J. Woźnica det.  
Anti Atlas: Errachidia, 13 km E of Goulmima, 31°44.568N, 4°51.945W, dry stony steppe 1100 m, 3.v.2012, M.J. Ebejer leg. (1♂), A.J. Woźnica det.

*Suillia bicolor* (Zetterstedt, 1838)

Rif: Talassemtane, Jebel Lakraâ, 35°06.913N, 5°08.034W, 1541 m, 12.vi.2013, meadow in mixed forest, M.J. Ebejer leg. (1♀); Jebel Bouhachem, Taghzout, Adrou, 556 m, 35°22.39N, 5°32.28W, 25.iv.2015, M.J. Ebejer leg. (2♀♀), A.J. Woźnica det.

*Suillia oxyphora* (Mik, 1900)

Rif: Jebel Talassemtane, 35°07'N, 5°07'W, 1554 m, 13.iv.2009, Fir forest (*Abies maroccana*), A. Taheri leg. (1♂3♀♀); Azilane, Aïn Tissemlal, 35°11.67N, 5°15.20W, 1255 m, 4.vii.13–13.viii.2013, K. Kettani leg. (1♀), Fir forest (*Abies maroccana*), A.J. Woźnica det.

## SPHAEROCERIDAE

K. Kettani, P. Gatt

Number of species: **67**. Expected: 130

Faunistic knowledge of the family in Morocco: poor

Copromyzinae

***Borborillus* Duda, 1923**

*Borborillus vitripennis* (Meigen, 1830)

Becker and Stein 1913, **Rif**, Tanger; Gatt 2006, **Rif**, Tétouan, Oued Laou; Marshall et al. 2011

***Copromyza* Fallén, 1810**

*Copromyza equina* Fallén, 1820

Gatt 2006, **Rif**, Tétouan, Oued Laou; Marshall et al. 2011

***Crumomyia* Macquart, 1835**

*Crumomyia glabrifrons* (Meigen, 1830)

Gatt et al. 2016, **Rif**, Tariouma (El Anasser, 1383 m), **MA**, Lac Aguelmane Sidi Ali (2050 m)

***Lotophila* Lioy, 1864***Lotophila atra* (Meigen, 1830)Gatt 2006, **Rif**, Tanger; Marshall et al. 2011***Norrbomia* Papp, 1988***Norrbomia hispanica* (Duda, 1923)Gatt 2006, **Rif**, Tétouan, Oued Laou; Marshall et al. 2011*Norrbomia marginatis* (Adams, 1905)Gatt 2006, **Rif**, Tétouan, Oued Laou; Marshall et al. 2011*Norrbomia nilotica* (Becker, 1903)

Roháček et al. 2001; Marshall et al. 2011

*Norrbomia niveipennis* (Duda, 1923)

Roháček et al. 2001; Marshall et al. 2011

*Norrbomia somogyii* (Papp, 1973)

Roháček et al. 2001; Marshall et al. 2011

*Norrbomia sordida* (Zetterstedt, 1847)Gatt et al. 2016, **Rif**, Oued Guallet (Bni Boufrah, 946 m), **AP**, Larache, Loukous Marsh

## Limosininae

***Bifronsina* Roháček, 1983***Bifronsina bifrons* (Stenhammar, 1855)

Roháček et al. 2001; Marshall et al. 2011

***Ceroptera* Macquart, 1835***Ceroptera rufitarsis* (Meigen, 1830)= *Limosina picta* Becker, in Becker and Stein 1913: 94Becker and Stein 1913, **Rif**, Tanger; Papp 1984a; Roháček et al. 2001, **Rif**, Tanger***Chaetopodella* Duda, 1920***Chaetopodella scutellaris* (Haliday, 1836)= *Leptocera scutellaris* (Haliday), in Séguy 1941a: 32Séguy 1941a, **HA**, Imi-n'Ouaka (1500 m)***Coproica* Rondani, 1861***Coproica digitata* (Duda, 1918)Gatt 2006, **Rif**, Tétouan, Oued Laou; Marshall et al. 2011*Coproica ferruginata* (Stenhammar, 1855)Gatt 2006, **Rif**, Tétouan, Martil; Marshall et al. 2011*Coproica hirticula* Collin, 1956Gatt et al. 2016, **Rif**, Dardara (730 m), Oued Laou (30 m), Zarka waterfall (Yarghit, 135 m), Oued Ouara (Beni Zid, 440 m), Oued Jnane Azaghar (Bni Boufrah, 997 m), Oued Mhannech (125 m), Adrou (Taghzout, 556 m), Oued Jnane Niche (Jnane Niche, 27 m)*Coproica hirtula* (Rondani, 1880)Gatt et al. 2016, **Rif**, Zarka waterfall (Yarghit, 135 m), **AA**, 14 km N Errachidia (Errachidia, 1214 m)



*Coproica lugubris* (Haliday, 1836)

Gatt 2006, **Rif**, Tétouan, M'Diq, Smir, Oued Laou; Marshall et al. 2011

*Coproica pusio* (Zetterstedt, 1847)

Gatt et al. 2016, **Rif**, Tamrabete (Oued Laou, 203 m), Smir lagoon (5 m)

*Coproica rohaceki* Carles-Tolrá, 1990

Gatt et al. 2016, **Rif**, Oued Amsa (Amsa, 14 m), Oued Moulay Bouchta (Dar Akobaâ, 285 m)

*Coproica rufifrons* Hayashi, 1991

Gatt et al. 2016, **Rif**, Issaguen (1543 m)

*Coproica vagans* (Haliday, 1833)

Gatt et al. 2016, **AA**, 14 km N Errachidia (1214 m), **AA**, Oued Ziz (13 km N Erfoud, 800 m), **SA**, Merzouga (698 m)

*Eulimosina ochripes* (Meigen, 1830)

Gatt et al. 2016, **Rif**, Issaguen (1543 m), Ksar el Kebir (20 m), **MA**, Lac Aguelamane Afenourrir (30 km SW Azrou, 1760 m)

***Leptocera* Olivier, 1813***Leptocera caenosa* (Rondani, 1880)

Gatt et al. 2016, **Rif**, Dardara (484 m)

*Leptocera fontinalis* (Fallén, 1826)

Gatt 2006, **Rif**, Tétouan, M'Diq, Smir; Marshall et al. 2011

*Leptocera nigra* Olivier, 1813

Munari 1993, **MA**, Azrou; Roháček et al. 2001; Marshall et al. 2011

***Limosina* Macquart, 1835***Limosina silvatica* (Meigen, 1830)

Gatt et al. 2016, **Rif**, Issaguen (1543 m), Talassemrane (NPT, 1696 m), **MA**, 3,5 km S Azrou (1450 m), 17 km NW Zaida (Khénifra, 1878 m)

***Minilimosina* Roháček, 1983***Minilimosina (Svarciella) vitripennis* (Zetterstedt, 1847)

Gatt et al. 2016, **MA**, 3,5 km S Azrou (1450 m)

***Opacifrons* Duda, 1918***Opacifrons coxata* (Stenhammar, 1855)

Gatt 2006, **Rif**, Tétouan, M'Diq, Smir, Oued Laou; Marshall et al. 2011

*Opacifrons maculifrons* (Becker, 1907)

Gatt 2006, **Rif**, Tétouan, Oued Laou; Marshall et al. 2011

***Opalimosina* Roháček, 1983***Opalimosina (Opalimosina) mirabilis* (Collin, 1902)

Gatt 2006, **Rif**, Tétouan, Oued Laou; Marshall et al. 2011

***Paralimosina* Papp, 1973***Paralimosina fucata* (Rondani, 1880)

Gatt et al. 2016, **Rif**, 5 km W Dardara (730 m), Dardara (484 m), Oued Azla (Mokdassen Oulya, 186 m), Oued Talembote (Talembote, 320 m), Oued El Khizana (El Khizana, 980 m), Jebel Kelaâ (Talamsemtane, 1554 m), Adrou (Taghzout, 556 m)

***Phthitia* Enderlein, 1938***Phthitia* (*Kimosina*) *sicana* (Munari, 1988)Gatt 2006, **Rif**, Tétouan, Oued Laou; Marshall et al. 2011*Phthitia* (*Kimosina*) *ciliata* (Duda, 1918)Gatt et al. 2016, **SA**, Bou Jarif (Goulimine)*Phthitia* (*Kimosina*) *plumosula* (Rondani, 1880)Gatt et al. 2016, **Rif**, Jebel Lakraâ (Talassemthane, 1541 m), Jebel Kelaâ (Talassemthane, 1554 m), Zaouiet and Habtiyène (Maggou, 1213 m), Oued Arozane (Bni Moussa, 317 m), Issaguen (1543 m), Zarka waterfall (Yarghit, 135 m), Taghramt (Bine El Ouidane, 276 m)*Phthitia* (*Kimosina*) *pteremoides* (Papp, 1973)Gatt et al. 2016, **SA**, Bou Jarif (Goulimine)***Poecilosomella* Duda, 1925***Poecilosomella* *angulata* (Thomson, 1869)Gatt 2006, **Rif**, Tétouan, Martil; Marshall et al. 2011***Pseudocollinella* Duda, 1924***Pseudocollinella* *jorlii* (Carles-Tolrá, 1990)Munari 1993, **MA**, Aguelmane; Roháček et al. 2001; Marshall et al. 2011***Pullimosina* Roháček, 1983***Pullimosina* (*Pullimosina*) *heteroneura* (Haliday, 1836)Gatt 2006, **Rif**, Tétouan, Oued Laou; Marshall et al. 2011*Pullimosina* (*Pullimosina*) *zayensis* Marshall, 1986

Roháček et al. 2001; Marshall et al. 2011

***Puncticorpus* Duda, 1918***Puncticorpus* *lusitanicum* (Richards, 1963)

Papp 1984a; Roháček et al. 2001

***Rachispoda* Lioy, 1864***Rachispoda* *acrosticalis* (Becker, 1903)Gatt 2006, **Rif**, Tétouan, M'Diq, Smir; Marshall et al. 2011*Rachispoda* *brevior* (Roháček, 1991)Roháček 1991, **AP**, Oued Bou-Regreg; Munari 1993; Roháček et al. 2001; Marshall et al. 2011*Rachispoda* *duodecimseta* (Papp, 1973)Roháček 1991, **EM**, Guercif-Oued Moulouya; Munari 1993; Roháček et al. 2001; Marshall et al. 2011*Rachispoda* *fuscipennis* (Haliday, 1833)Roháček 1991, **EM**, Oued Bou-Regreg; Munari 1993; Roháček et al. 2001; Marshall et al. 2011*Rachispoda* *gel* (Papp, 1978)Gatt 2006, **Rif**, Tétouan, M'Diq, Smir; Marshall et al. 2011*Rachispoda* *kabuli* (Papp, 1978)Roháček 1991, **MA**, Taza, Oued Fès; Munari 1993; Roháček et al. 2001; Marshall et al. 2011

*Rachispoda lagura* (Roháček, 1991)

Gatt et al. 2016, **Rif**, Ksar el Kebir (20 m), **AA**, Oued Ziz (12 km S Rissani, 737 m), Oued Ziz (13 km N Erfoud, 800 m), Oued Ziz (30 km N Erfoud, 894 m)

*Rachispoda lutosoidea* (Duda, 1938)

Roháček 1991, **MA**, Azrou, Aguelmane, Oued Sebou; Munari 1993; Roháček et al. 2001; Marshall et al. 2011

*Rachispoda modesta* (Duda, 1924)

Gatt 2006, **Rif**, Tétouan, M'Diq, Smir; Marshall et al. 2011

*Rachispoda uniseta* (Roháček, 1991)

Roháček 1991, **MA**, Taza, Oued Fès; Munari 1993; Roháček et al. 2001; Marshall et al. 2011; Vaňhara and Rozkošný 1997

*Rachispoda varicornis* (Strobl, 1900)

Roháček 1991, **AP**, Oued Bou-Regreg, **MA**, Azrou; Munari 1993, **MA**, Oued Sebou; Roháček et al. 2001; Marshall et al. 2011

***Spelobia* Spuler, 1924***Spelobia baezi* (Papp, 1977)

Roháček et al. 2001; Marshall et al. 2011

*Spelobia clunipes* (Meigen, 1830)

Gatt et al. 2016, **Rif**, 5 km W Dardara (730 m), Martil (beach and dunes), Oued Mhannech (18 m), Oued Afertane (Afertane, 56 m), Maggou waterfall (Maggou, 786 m), Onsar Akboul (NPB, 1315 m), Oued Ametrasse (Ametrassé, 841 m), Oued Tahaddart (Tahaddart, 87 m), Issaguen (1543 m), Lemtahane (PNPB, 1088 m)

*Spelobia hungarica* (Villeneuve, 1917)

Gatt 2006, **Rif**, Tétouan, Martil; Marshall et al. 2011

*Spelobia quaesita* Roháček, 1983

Roháček et al. 2001; Marshall et al. 2011

***Spinilimosina* Roháček, 1983***Spinilimosina brevicostata* (Duda, 1918)

Roháček et al. 2001; Marshall et al. 2011

***Telomerina* Roháček, 1983***Telomerina pseudoleucoptera* (Duda, 1924)

Gatt et al. 2016, **Rif**, Maggou waterfall (Maggou, 786 m)

***Thoracochaeta* Duda, 1918***Thoracochaeta brachystoma* (Stenhammar, 1855)

Gatt 2006; Cassar et al. 2008, **Rif**, Tétouan, M'Diq, Smir; Marshall et al. 2011

*Thoracochaeta erectiseta* Carles-Tolrá, 1994

Gatt 2006, **Rif**, Tétouan, M'Diq, Smir, Oued Laou; Marshall et al. 2011

***Trachyopella* Duda, 1918***Trachyopella (Trachyopella) coprina* (Duda, 1918)

Gatt et al. 2016, **Rif**, Oued Jnane Niche (Jnane Niche, 27 m)

*Trachyopella (Trachyopella) melania* (Haliday, 1836)

Gatt et al. 2016, **Rif**, Oued Nwawel (Azla, 57 m), M'Diq (5 m)

## Sphaerocerinae

***Ischiolepta* Lioy, 1864***Ischiolepta pusilla* (Fallén, 1820)Gatt et al. 2016, **Rif**, Oued Guallet (Bni Boufrah, 946 m), Aïn Tissemlal (Azilane, 1255 m)*Ischiolepta vaporariorum* (Haliday, 1836)Gatt 2006, **Rif**, Tétouan, Oued Laou; Marshall et al. 2011***Lotobia* Lioy, 1864***Lotobia africana* (Becker, 1907)

Roháček et al. 2001; Marshall et al. 2011

*Lotobia pallidiventris* (Meigen, 1830)Gatt 2006, **Rif**, Tétouan, M'Diq, Oued Laou; Marshall et al. 2011***Sphaerocera* Latreille, 1804***Sphaerocera curvipes* Latreille, 1805

Roháček et al. 2001; Marshall et al. 2011

## Ephydroidea

**BRAULIDAE**

K. Kettani

Number of species: **1**. Expected: 1

Faunistic knowledge of the family in Morocco: good

## Braulinae

***Braula* Nitzsch, 1818***Braula coeca* Nitzsch, 1818

Séguy 1930a; Mouna 1998; Howard et al. 2000

**CAMILLIDAE**

K. Kettani, M.J. Ebejer

Number of species: **4**. Expected: 5

Faunistic knowledge of the family in Morocco: poor

***Camilla* Haliday in Curtis, 1837***Camilla acutipennis* (Loew, 1865)Ebejer et al. 2019, **Rif**, Aïn Jdioui (Tahaddart, 76 m), Chrabkha pond (Al Manzla, 58 m)*Camilla flavicauda* Duda, 1922Mouna 1998; Pârvu et al. 2006, **AP**, Cap Sim; Popescu-Mirceni 2011*Camilla glabra* (Fallén, 1823)

Séguy 1941d, **HA**, Tizi-n'Test; Mouna 1998  
*Camilla pruinosa* Duda, 1934  
Ebejer et al. 2019, **AP**, Larache (5 m)

## CRYPTOCHETIDAE

K. Kettani, E.P. Nartshuk  
Number of species: **1**. Expected: 2  
Faunistic knowledge of the family in Morocco: poor

### *Cryptochetum* Rondani, 1875

*Cryptochetum* (as *Cryptochaetum*) *mimeuri* Séguy, 1953  
Séguy 1953c, **MA**, Ifrane; Nartshuk 1979, **MA**, Ifrane

## DIASTATIDAE

K. Kettani, M.J. Ebejer  
Number of species: **2**. Expected: 3  
Faunistic knowledge of the family in Morocco: poor

### Campichoetinae

#### *Campichoeta* Macquart, 1835

*Campichoeta obscuripennis* (Meigen, 1830)  
Ebejer et al. 2019, **HA**, Lalla Takrkoust (628 m)

### Diastatinae

#### *Diastata* Meigen, 1830

*Diastata adusta* Meigen, 1830  
= *Diastata unipunctata* Zetterstedt, 1847  
Pârvu et al. 2006, **AP**, Merja Zerga; Popescu-Mirceni 2011

## DROSOPHILIDAE

K. Kettani, G. Bächli  
Number of species: **26**. Expected: 30  
Faunistic knowledge of the family in Morocco: good

### Drosophilinae

#### Drosophilini

#### *Drosophila* Fallén, 1823

*Drosophila* (*Drosophila*) *busckii* Coquillett, 1901

- = *Drosophila rubrostriata* Becker, 1908, in Séguy 1953a: 85  
 Séguy 1953a, **AP**, Rabat, Sidi Yahia du Gharb; Prevosti 1974, **HA**, Asni; Mouna 1998; Chakir et al. 2011, **HA**, Marrakech – MISR
- Drosophila (Drosophila) buzzatii* Patterson & Wheeler, 1942  
 Prevosti 1974, **HA**, Asni (Admin forest); Mouna 1998; Bächli 2015 (TaxoDros); **Rif** (Tanger) – ZMZ
- Drosophila (Drosophila) funebris* (Fabricius, 1787)  
 Prevosti 1974, **HA**, Asni; Mouna 1998; **AP** (Maâmora) – MISR
- Drosophila (Drosophila) hydei* Sturtevant, 1921  
 Staiger and Gloor 1952, **AP**, Rabat; Gloor and Satiger 1954, **AP**, Rabat; Prevosti 1974, **HA**, Asni (Admin forest); Mouna 1998; Chakir et al. 2011, **HA**, Marrakech
- Drosophila (Drosophila) immigrans* Sturtevant, 1921  
 Mouna 1998; Chakir et al. 2011, **HA**, Marrakech; Bächli 2015 (TaxoDros); **Rif** (Tanger) – ZMZ
- Drosophila (Drosophila) kuntzei* Duda, 1924  
 Mouna 1998; Prevosti 1974, **AP**, Essaouira, **HA**, Asni
- Drosophila (Drosophila) mercatorum* Patterson & Wheeler, 1942  
 Prevosti 1974, **AA**, Agadir (Admin forest near Agadir); Mouna 1998
- Drosophila (Drosophila) phalerata* Meigen, 1830  
 Prevosti 1974, **AP**, Essaouira, **HA**, Asni; Mouna 1998; Bächli 2015 (TaxoDros); **Rif** (Tanger), **MA** (Ifrane) – ZMZ
- Drosophila (Drosophila) repleta* Wollaston, 1858  
 Séguy 1953a, **AP**, Rabat, **MA**, Fès
- Drosophila (Drosophila) tsigana* Burla & Gloor, 1952  
 Suwito et al. 2014, **MA**, Ifrane
- Drosophila (Sophophora) ambigua* Pomini, 1940  
 Mouna 1998; Bächli 2015 (TaxoDros); **Rif** (Tanger), **MA** (Ifrane) – ZMZ
- Drosophila (Sophophora) melanogaster* Meigen, 1830  
 Medioni 1958; David and Bocquet 1973, **HA**, Marrakech, **AA**, Agadir, Ouarzazate, Taroudant, **AA**, Zagora; Prevosti 1974, **AP**, Essaouira, **HA**, Asni (Admin forest); Jousset and Plus 1975; Plus et al. 1975, **HA**, Marrakech, **AA**, Agadir, Ouarzazate, Taroudant, **AA**, Zagora; Prevosti et al. 1975, **Rif**, Tanger; Allemand and David 1976, **AA**, Ouarzazate; Ashburner and Lemeunier 1976, **HA**, Marrakech, **AA**, Agadir, Taroudant, **AA**, Zagora; Fleuriet 1976, **AA**, Zagora; Plus et al. 1976, **AA**, Ouarzazate, Zagora; Jousset 1976, **AA**, Ouarzazate; Plus and Scotti 1984, **AA**, Ouarzazate; Thomas-Orillard 1984, **AA**, Ouarzazate; Afonso et al. 1985, **HA**, Asni; Prevosti et al. 1985, **AP**, Essaouira, **AA**, Agadir; David et al. 1986, **AP**, Rabat, Casablanca; Ayala et al. 1989, **Rif**, Chefchaouen; Boulétreau et al. 1992, **AA**, Agadir; Costa et al. 1992, **AP**, Casablanca; Capy et al. 1993, **AP**, Casablanca, Rabat; Ritchie et al. 1994, **AP**, Casablanca; Mouna 1998; Bonnivard and Higuier 1999, **AA**, Agadir; Chakir et al. 2002, 2007, 2008, 2011, **HA**, Marrakech; Ayrinhac et al. 2004, **HA**, Marrakech; Catania et al. 2004, **HA**, Marrakech **AA**, Agadir; Rohmer et al. 2004, **HA**, Marrakech; Dieringer et al. 2005, **HA**, Marrakech, **AA**, Agadir; Yassin

and Orgogozo 2013, **HA**, Marrakech; Bächli 2015 (TaxoDros) – HNHM, **AP** (Rabat), **HA** (Marrakech) –MISR, **MA** (Ifrane) – ZMZ

*Drosophila (Sophophora) simulans* Sturtevant, 1919

Prevosti 1974, **AP**, Essaouira, **HA**, Asni (Admin forest); Baba-Aissa et al. 1988, **AP**, Rabat; Nigro 1988, **AP**, Larache; Capy et al. 1990, 1992, 1993, **AP**, Rabat, **MA**, Béni Mellal **AA**, Agadir; Chakrani et al. 1993, **AA**, Agadir; Mouna 1998; Charlat et al. 2003, **AA**, Agadir; Biémont et al. 2003, **HA**, Marrakech; Chakir et al. 2002, 2007, 2008, 2011, **HA**, Marrakech; Nardon et al. 2005, **HA**, Marrakech; Yassin and Orgogozo 2013, **HA**, Marrakech; Bächli 2015 (TaxoDros); **AA** (Agadir) – ZMZ

*Drosophila (Sophophora) subobscura* Collin, 1936

Götz 1965, **Rif**, Tanger; Prevosti 1971a, **Rif**, Tanger; Prevosti 1971b, **AP**, Essaouira, **HA**, Asni, **AA**, Ait-Melloul; Prevosti 1971c; Gonzalez-Duarte et al. 1973, **AP**, Essaouira, **HA**, Asni **AA**, Agadir; Prevosti 1974, **AP**, Essaouira, **HA**, Asni (Admin forest); Prevosti et al. 1975, **AA**, Agadir; Duarte 1976, **AP**, Essaouira, **HA**, Asni **AA**, Agadir; Gonzalez 1976, **AP**, Essaouira, **HA**, Asni, **AA**, Agadir; Prevosti 1978, **Rif**, Tanger, **AP**, Essaouira, **HA**, Asni **AA**, Agadir; Krimbas and Loukas 1980, **AA**, Agadir; Cabrera et al. 1983, **Rif**, Chefchaouen; Laruga et al. 1983, **Rif**, Chefchaouen; Prevosti et al. 1985, **AA**, Agadir; Pascual et al. 1986, **Rif**, Chefchaouen; Latorre et al. 1986, **Rif**, Chefchaouen; Constanti et al. 1986, **Rif**, Chefchaouen; Ayala et al. 1989, **Rif**, Chefchaouen; Afonso et al. 1990, **Rif**, Chefchaouen; Pascual et al. 1990, **Rif**, Chefchaouen; Paricio et al. 1991, **Rif**, Chefchaouen; Menozzi and Krimbas 1992, **AA**, Agadir; Latorre et al. 1992, **Rif**, Chefchaouen; Fain et al. 1993, **AA**, Agadir; Alberola and Frutos 1993; Alberola and Frutos 1996; Pinto et al. 1997, **HA**, Asni, Marrakech **AA**, Agadir; Mouna 1998; David et al. 2003, **HA**, Marrakech; Brehm et al. 2004, **AA**, Agadir; Nardon et al. 2005, **HA**, Marrakech; Bächli 2015 (TaxoDros); **MA** (Azrou) – NHMD

*Drosophila (Sophophora) suzukii* (Matsumura, 1931)

Landolt et al. 2012, **Rif**, north-eastern Morocco

*Hirtodrosophila* Duda, 1924

*Hirtodrosophila cameraria* (Haliday, 1833)

Ebejer et al. 2019, **Rif**, Aïn Ras el Ma, ruisseau maison forestière (Talassemthane)

*Lordiphosa* Basden, 1961

*Lordiphosa andalusiaca* (Strobl, 1906)

= *Lordiphosa forcipata* (Collin, 1952), in Hackman 1960: 102

Hackman 1960; Bächli 2015 (TaxoDros); **AP** (Rabat) – NHMD

*Scaptomyza* Hardy, 1849

*Scaptomyza adusta* (Loew, 1862)

Ebejer et al. 2019, **Rif**, Dardara (730 m), **AP**, Loukous marsh (2 m)

*Scaptomyza flava* (Fallén, 1823)

= *Scaptomyza flaveola* (Meigen, 1830), in Kozłowsky and Rungs 1932: 66

Kozłowsky and Rungs 1932, **AP**, Rabat

*Scaptomyza graminum* (Fallén, 1823)

Maarouf 2003, **HA**, Chaouia; Bächli 2015 (TaxoDros); **HA** (Asni, Tinerhir) – NHMD

*Scaptomyza* (*Parascaptomyza*) *pallida* (Zetterstedt, 1847)

Ibn Jilali 1988 (agricultural areas); Maarouf 2003, **HA**, Chaouia; Bächli 2015 (TaxoDros); **AP** (Essaouira) MHNNR, **MA** (Azrou) – NHMD

***Scaptodrosophila* Duda, 1923**

*Scaptodrosophila rufifrons* (Loew, 1873)

Mouna 1998; Bächli 2015 (TaxoDros); **Rif** (Tanger) – ZMZ

***Zaprionus* Coquillett, 1901**

*Zaprionus indianus* Gupta, 1970

Yassin and David 2010

Steganinae

Gitonini

***Gitona* Meigen, 1830**

*Gitona microchaeta* Séguy, 1941

Séguy 1941d, **AA**, Agadir; Bächli 1982, **AA**, Agadir; Bächli and Rocha Pité 1984, **AA**, Agadir; Mouna 1998

***Phortica* Fallén, 1823**

*Phortica variegata* (Fallén, 1823)

Ebejer et al. 2019, **Rif**, Bab Berred (1433 m), Jebel Lakraâ (Talassemthane, 1541 m)

Steganini

***Leucophenga* Mik, 1886**

*Leucophenga maculata* (Dufour, 1839)

Séguy 1934b, **AP**, Port-Liautey (Maâmora)

## EPHYDRIDAE

K. Kettani, T. Zatwarnicki

Number of species: **117**. Expected: 140

Faunistic knowledge of the family in Morocco: good

Discomyzinae

Discomyzini

***Actocetor* Becker, 1903**

*Actocetor indicus* (Wiedemann, 1824)

= *Actocetor margaritatus* (Wiedemann, 1830), in Séguy 1934b: 162, 1953a: 86

Séguy 1934b, **Rif**, Béni Aross; Séguy 1953a, **SA**, Tindouf



***Discomyza* Meigen, 1830***Discomyza incurva* (Fallén, 1823)

- = *Discomyza italica* Séguy, 1929, in Vitte 1991: 3; Dakki 1997: 63  
Cresson 1939; Vitte 1991, **AP**, Atlantic coast and Plains; Dakki 1997

## Psilopini

***Clanoneurum* Becker, 1903***Clanoneurum cimiciforme* (Haliday, 1855)

- Séguy 1941d, **AA**, Agadir; Dahl 1964; Vitte 1991, **AP**, Rabat; Dakki 1997

***Diasemocera* Bezzi, 1895***Diasemocera aequalipes* (Becker, 1907)

- = *Psilopa aequalipes* (Becker, 1907), in Ebejer et al. 2019: 147  
Zatwarnicki 2018; Ebejer et al. 2019, **AA**, Lac Tiffert (4 km W of Merzouga, 702 m), Ziz river (13 km N of Erfoud, 800 m)

*Diasemocera biskrae* (Becker, 1907)

- = *Psilopa biskrae* (Becker, 1907), in Vitte 1991: 32  
Vitte 1991, **AP**, M'Diq; Dakki 1997

*Diasemocera composita* (Becker, 1903)

- = *Psilopa composita* (Becker, 1903), in Vitte 1991: 32, Dakki 1997: 63  
Vitte 1991, **AP**, Rabat; Dakki 1997

*Diasemocera fratella* (Becker, 1903)

- = *Psilopa fratella* (Becker, 1903), in Ebejer et al. 2019: 147  
Ebejer et al. 2019, **AA**, Errachidia (1 km N of Tarda, 1023 m), **AA**, Ziz river (13 km N of Erfoud, 800 m)

*Diasemocera glabricula* (Fallén, 1813)

- = *Psilopa nigritella* Stenhammar, 1844, in Vitte 1988: 394; Dakki 1997: 63  
Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **Rif**; Dakki 1997

*Diasemocera leucostoma* (Meigen, 1830)

- = *Psilopa leucostoma* (Meigen, 1830), in Séguy 1941d: 18  
Séguy 1941d, **AA**, Agadir

*Diasemocera maritima* (Perris, 1847)

- = *Psilopa maritima* (Perris, 1847), in Cassar et al. 2008: 25  
Cassar et al. 2008, **Rif**, Laou Basin

*Diasemocera nana* (Loew, 1860)

- = *Psilopa nana* Loew, 1860, in Vitte 1991: 32, Dakki 1997: 63  
Vitte 1991, **Rif**, **AP**, Atlantic coast; Dakki 1997

*Diasemocera rufithorax* (Becker, 1903)

- = *Psilopa rufithorax* (Becker, 1903), in Ebejer et al. 2019: 147  
Ebejer et al. 2019, **AA**, Merzouga (714 m)

***Psilopa* Fallén, 1823***Psilopa clara* (Wollaston, 1858)

- = *Psilopa rutilans* Canzoneri & Meneghini, 1972, in Cassar et al. 2005: 69

- Cassar et al. 2005, **Rif**, Smir lagoon; Zatwarnicki 2018, **AP**, Larache (Lower Loukous), Safi, **AA**, Sidi Moussa, D'Agion (0–50 m)
- Psilopa meneghinii* Canzoneri, 1986  
Vitte 1991, **AP**, Atlantic coast; Dakki 1997
- Psilopa compta* (Meigen, 1830)  
Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991; Dakki 1997
- Psilopa nilotica* (Becker, 1903)  
Ebejer et al. 2019, **AA**, Ziz river (10 km S of Errachidia, 1008 m), 1 km N of Tarda (Errachidia, 1023 m), Merzouga (714 m), 2 km N Erfoud (818 m)
- Psilopa nitidula* (Fallén, 1813)  
Becker and Stein 1913, **Rif**, Tanger; Séguy 1941a, **HA**, Toubkal; Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **Rif**; Zatwarnicki 1991, **Rif**, Tanger, Tétouan, **MA**, Ifrane; Dakki 1997
- Psilopa obscuripes* Loew, 1860  
Ebejer et al. 2019, **Rif**, Oued Azla (near bridge, 80 m), **AP**, Larache (5 m), Lower Loukous saltmarsh (2 m), **MA**, Khénifra (28 km S of Timahdit, 2100 m)
- Psilopa polita* (Macquart, 1835)  
Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **Rif**; Dakki 1997

## Risini

### ***Achaetorisa* Papp, 1980**

- Achaetorisa brevicornis* Papp, 1980  
Papp 1980, **HA**, Ouirgane

## Ephydrinae

### Dagini

### ***Brachydeutera* Leow, 1862**

- Brachydeutera meridionalis* (Rondani, 1856)  
= *Brachydeutera ibari* Ninomyia, 1929, in Ebejer et al. 2019: 147  
Ebejer et al. 2019, **Rif**, Oued Martil (Taboula, 14 m)

## Parydrini

### ***Parydra* Stenhammar, 1844**

- Parydra (Chaetoapnaea) fossarum* (Haliday, 1833)  
Séguy 1930a, **AP**, Rabat, **MA**, Meknès, **HA**, Marrakech; Vitte 1991; Dakki 1997; Vitte 1988, **MA**, lakes of Middle Atlas; **MA** (Jebel Khazzane) – MISR
- Parydra (Chaetoapnaea) hecate* (Haliday, 1833)  
= *Napaea hecate* (Haliday), in Vaillant 1956b: 244  
Vaillant 1956b, **HA**, Imi-N'Ifri

*Parydra (Chaetoapnaea) quadripunctata* (Meigen, 1830)

Pârvu et al. 2006, **AP**, Merja Zerga; Pârvu and Zaharia 2007; Popescu-Mirceni 2011, **AP**, Merja Zerga

*Parydra (Paranapaea) pubera* Loew, 1860

Dahl 1964, **AA**, Aït Melloul, Oued Souss; Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991; Dakki 1997

*Parydra (Parydra) aquila* (Fallén, 1813)

Vitte 1991, **Rif**, Ouezzane, Ketama; Dakki 1997

*Parydra (Parydra) coarctata* (Fallén, 1813)

Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **Rif**, Ksar el Kbir; Dakki 1997

*Parydra (Parydra) cognata* Loew, 1860

Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991; Dakki 1997

*Parydra (Parydra) flavitarsis* Dahl, 1964

Vitte 1988, **Rif**, **MA**, lakes of Middle Atlas; Vitte 1991, **Rif**, **MA**, Fès; Dakki 1997; Gatt and Ebejer 2003; Dakki et al. 2003; Chillasse and Dakki 2004, **Rif**, **MA**; Dakki and Himmi 2008, **MA**, Oued Sebou

*Parydra (Parydra) littoralis* (Meigen, 1830)

Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **Rif**, Tétouan, Ketama; Dakki 1997

*Parydra (Parydra) nigritarsis* Strobl, 1893

Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **Rif**, Ketama; Dakki 1997

*Parydra (Parydra) nubecula* Becker, 1896

Pârvu et al. 2006, **AA**, Lac Edehby, Ouarzazate; Popescu-Mirceni 2011, **AP**, Merja Zerga

*Parydra (Parydra) quinquemaculata* Becker, 1896

Vitte 1991, **AP**, Moulay Bousselham; Dakki 1997

## Ephydrini

### ***Ephydra* Fallén, 1823**

*Ephydra bivittata* Loew, 1860

Vitte 1991; Dakki 1997

*Ephydra flavipes* (Macquart, 1843)

Vitte 1991, **AP**, Atlantic coast; Dakki 1997

*Ephydra glauca* Meigen, 1830

Vitte 1991; Dakki 1997

*Ephydra macellaria* Egger, 1862

Dahl 1964, **AA**, Oued Souss; Vitte 1988, **MA**, lakes of Middle Atlas; Dakki 1997; Vitte 1991, **AP**, Atlantic coast

### ***Halmopota* Haliday, 1856**

*Halmopota mediterranea* Loew, 1860

Dahl 1964, **AA**, Aït Melloul; Dakki 1997; Vitte 1991, **Rif**, Asilah, Chefchaouen

### ***Paracoenia* Cresson, 1935**

*Paracoenia fumosa* (Stenhammar, 1844)

Vitte 1988, **MA**, lakes of Middle Atlas; Dakki 1997

***Setacera* Cresson, 1930**

*Setacera breviventris* (Loew, 1860)

Vitte 1991, **Rif**, Ksar el Kbir; Dakki 1997

Scatellini

***Haloscatella* Mathis, 1979**

*Haloscatella dictaeta* (Loew, 1860)

= *Scatella dictaeta* Loew, 1860, in Vitte 1988: 392, 1991: 26; Dakki 1997: 62

Vitte 1988, **MA**, Khemisset, Oued Beth, Dayat Aoua; Vitte 1991, **AP**, Moulay Bousselham; Dakki 1997

***Lamproscatella* Hendel, 1917**

*Lamproscatella sibilans* (Haliday, 1833)

Ebejer et al. 2019, **AA**, 1 km N of Tarda (Errachidia, 1023 m)

***Limnellia* Malloch, 1925**

*Limnellia quadrata* (Fallén, 1813)

Vitte 1991, **Rif**, Central Rif; Dakki 1997

***Philotelma* Becker, 1896**

*Philotelma nigripenne* (Meigen, 1830)

= *Scatella nigripennis* (Meigen, 1830), in Vitte 1988: 391; Dakki 1997: 62

Vitte 1988, **MA**, lakes of Middle Atlas; Dakki 1997

***Scatella* Robineau-Desvoidy, 1830**

*Scatella* (*Neoscatella*) *subguttata* (Meigen, 1830)

Vitte 1991, **AP**, Atlantic and Mediterranean coast, Smir lagoon; Dakki 1997; Pârvu et al. 2006, **AP**, Merja Zerga; Popescu-Mirceni 2011

*Scatella* (*Scatella*) *ciliata* Collin, 1930

Vitte 1991, **AP**, Moulay Bousselham, Asilah; Dakki 1997

*Scatella* (*Scatella*) *lacustris* (Meigen, 1830)

= *Scatella* (*Scatella*) *tenuicosta* Collin, 1930, in Ebejer et al. 2019: 147

Ebejer et al. 2019, **AA**, Ziz river (13 km N of Erfoud, 800 m)

*Scatella* (*Scatella*) *lutosa* (Haliday, 1833)

Vitte 1991, **AP**, Moulay Bousselham; Dakki 1997

*Scatella* (*Scatella*) *obsoleta* Loew, 1861

= *Scatella callosicosta* Bezzi, 1895, in Vitte 1988: 392, 1991: 26; Dakki 1997: 62

Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **Rif**, M'Diq; Dakki 1997

*Scatella* (*Scatella*) *paludum* (Meigen, 1830)

Dahl 1964, **AP**, Oued Korifla; Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991; Dakki 1997

*Scatella* (*Scatella*) *rufipes* Strobl, 1906

= *Scatella rubida* Becker, 1907, in Olafsson 1991: 21; Vitte 1991: 26; Dakki 1997: 62

Olafsson 1991, **EM**, Figuig, Defilia; Vitte 1991, **Rif**, **AP** (Atlantic coast); Dakki 1997; Gatt and Ebejer 2003

*Scatella* (*Scatella*) *stagnalis* (Fallén, 1813)

Séguy 1941a, **HA**, Toubkal; Dahl 1964, **AA**, Aït Melloul, Oued Souss; Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991; Dakki 1997

***Scatophila* Becker, 1896***Scatophila caviceps* (Stenhammar, 1844)

Vitte 1988, **AP**, Rabat, Temara, **MA**, lakes of Middle Atlas; Vitte 1991; Dakki 1997

*Scatophila despecta* (Haliday, 1839)

Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **MA**, Khemisset, Oued Beth; Dakki 1997

*Scatophila farinae* Becker, 1903

Zatwarnicki 1987, **HA**, Vallée de l'Ait Mizane; Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **MA**, Taounate; Dakki 1997; Gatt and Ebejer 2003

*Scatophila modesta* Becker, 1908

Vitte 1991, **Rif**, Tétouan; Dakki 1997

*Scatophila unicornis* Czerny, 1900

Ebejer et al. 2019, **AA**, 14 km E of Rich (Errachidia, 1278 m)

## Gymnomyzinae

## Discocerini

***Diclasioipa* Hendel, 1917***Diclasioipa galactoptera* (Becker, 1903)

= *Discocerina galactoptera* Becker, in Vitte 1988: 394; Dakki 1997: 63

Vitte 1988, **MA**, lakes of Middle Atlas; Dakki 1997; Kirk-Spriggs and McGregor 2009

*Diclasioipa lacteipennis* (Loew, 1862)

= *Discocerina lacteipennis* Loew, 1862, in Vitte 1988: 394, 1991: 32; Dakki 1997: 63

Vitte 1988, **MA**, lakes of Middle Atlas; Rabat; Vitte 1991, **MA**, Khemisset, Taounate; Dakki 1997

*Diclasioipa niveipennis* (Becker, 1896)

= *Discocerina niveipennis* (Becker, 1896), in Vitte 1988: 394, 1991: 32; Dakki 1997: 63

Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **AP**, Moulay Bousselham; Dakki 1997

***Discocerina* Macquart, 1835***Discocerina obscurella* (Fallén, 1813)

Vitte 1988, **AP**, **MA**, lakes of Middle Atlas; Vitte 1991, **MA**, Fès, Taounate; Mathis 1997; Dakki 1997; Wolff et al. 2016

***Ditrichophora* Cresson, 1924***Ditrichophora calceata* (Meigen, 1830)

= *Discocerina calceata* (Meigen, 1830), in Vitte 1988: 394; Dakki 1997: 63

Vitte 1988, **MA**, lakes of Middle Atlas; Dakki 1997

*Ditrichophora mauritanica* (Vitte, 1991)

= *Discocerina mauritanica* Vitte, 1991, in Vitte 1991: 33

Vitte 1991, **Rif, MA**, Azrou; Dakki 1997; Chillasse and Dakki 2004, **Rif, MA**;  
Dakki and Himmi 2008, **MA**, Oued Sebou

***Gymnoclasiopa* Hendel, 1930**

*Gymnoclasiopa plumosa* (Fallén, 1823)

= *Discocerina plumosa* (Fallén, 1823), in Vitte 1988: 394, 1991: 33; Dakki 1997: 63

Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **Rif**; Dakki 1997

*Gymnoclasiopa pulchella* (Meigen, 1830)

= *Discocerina pulchella* (Meigen, 1830), in Vitte 1991: 33; Dakki 1997: 63

Vitte 1991, **Rif**, Ketama, Ouezzane; Dakki 1997

***Hecamedoides* Hendel, 1917**

*Hecamedoides glaucellus* (Stenhammar, 1844)

= *Discocerina glauca* (Stenhammar, 1844), in Vitte 1991: 33

Vitte 1991, **Rif, AP**

***Polytrichophora* Cresson, 1924**

*Polytrichophora duplosetosa* (Becker, 1896)

**AP** (Rabat) – MISR

Gymnomyzini

***Athyroglossa* Loew, 1860**

*Athyroglossa (Athyroglossa) glabra* (Meigen, 1830)

Vitte 1988, **Rif, MA**, lakes of Middle Atlas; Dakki 1997

*Athyroglossa (Athyroglossa) nudiuscula* Loew, 1860

Vitte 1991, **Rif**; Dakki 1997

*Athyroglossa (Parathyroglossa) ordinata* Becker, 1896

Vitte 1991, **Rif**; Vitte 1988, **MA**, lakes of Middle Atlas; Mathis and Zatwarnicki 1990, **MA**, Ifrane; Dakki 1997

***Chlorichaeta* Becker, 1922**

*Chlorichaeta albipennis* (Loew, 1848)

Vitte 1991; Dakki 1997

***Mosillus* Latreille, 1804**

*Mosillus subsultans* (Fabricius, 1794)

= *Gymnopa subsultans* Fabricius, in Séguy 1930a: 181

Séguy 1930a, **MA**, M'Rirt, **HA**, Imminen (Tachidirt); Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **Rif**; Mathis et al. 1993, **MA**, Ifrane (1650 m), maison forestière (cedar forest: 2700 m), Oued Jaffar (N of source, 0–1500 m), **HA**, Mikdane (Jebel Ayachi); Dakki 1997; Koçak and Kemal 2010

Hecamedini

***Allotrichoma* Becker, 1896**

*Allotrichoma laterale* (Loew, 1860)

Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991; Dakki 1997

*Allotrichoma leotoni* Vitte, 1992

Vitte 1992, **Rif**, Ouezzane, Boured

*Allotrichoma quadripectinatum* (Becker, 1896)

= *Allotrichoma bellicosum* Giordani Soika, 1956, in Vitte 1991: 30; Dakki 1997: 63

Vitte 1991, **Rif**, **AP**; Dakki 1997

*Allotrichoma simplex* (Loew, 1861)

= *Allotrichoma filiforme* Becker, 1896, in Vitte 1988: 393, 1991: 30; Dakki 1997: 63

Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **MA**, Khemisset, Oued Sebou; Dakki 1997

***Elephantinosoma* Becker, 1903***Elephantinosoma chnumi* Becker, 1903

Gatt and Ebejer 2003; Kirk-Spriggs and McGregor 2009

***Hecamede* Haliday, 1837***Hecamede albicans* (Meigen, 1830)

Vitte 1991, **AP**; Dakki 1997; Pârvu et al. 2006, **AP**, Merja Zerga; Cassar et al. 2008, **Rif**, Smir Lagoon; Popescu-Mirceni 2011

## Lipochaetini

***Glenanthe* Haliday, 1839***Glenanthe ripicola* (Haliday, 1839)

Vitte 1991, **AP**; Dakki 1997; Cassar et al. 2008, **Rif**, Laou Basin; Zatwarnicki and Mathis 2011, **AA**, Tarfaya – HNHM

***Homalometopus* Becker, 1903***Homalometopus* sp.

Vitte 1991

## Ochtherini

***Ochthera* Latreille, 1802***Ochthera manicata* (Fabricius, 1794)

Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991; Dakki 1997

*Ochthera pilimana* Becker, 1903

Dakki 1997

*Ochthera schembrii* Rondani, 1847

= *Ochthera mantispa* Loew, 1847, in Vitte 1988: 394, 1991: 28; Dakki 1997: 63

Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **Rif**, **AP**; Dakki 1997

## Hydrelliinae

## Atissini

***Asmeringa* Becker, 1903***Asmeringa inermis* Becker, 1903

Vitte 1991, **AP**, Rabat; Dakki 1997; Gatt and Ebejer 2003

***Atissa* Haliday, 1839***Atissa durrenbergensis* Loew, 1864Vitte 1991, **AP**; Dakki 1997*Atissa hepaticoloris* Becker, 1903Vitte 1991, **AP**; Dakki 1997; Gatt and Ebejer 2003*Atissa limosina* Becker, 1896Vitte 1991, **AP**, Rabat, **MA**, Fès; Dakki 1997*Atissa pygmaea* (Haliday, 1839)Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991; Dakki 1997; Pârvu et al. 2006, **AA**, Lac Edehby, Ouarzazate; Popescu-Mirceni 2011***Ptilomyia* Coquillett, 1900***Ptilomyia angustigenis* (Becker, 1926)= *Atissa angustigenis* Becker, in Vitte 1988: 393, 1991: 30; Dakki 1997: 63Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991; Dakki 1997; Gatt and Ebejer 2003

## Dryxini

***Dryxo* Robineau-Desvoidy, 1830***Dryxo ornata* (Macquart, 1843)Mathis and Zatwarnicki 2002, **AA**, Aoulouz

## Hydrelliini

***Hydrellia* Robineau-Desvoidy, 1830***Hydrellia albifrons* (Fallén, 1813)Vitte 1991, **AP**, **Rif**; Dakki 1997*Hydrellia argyrogenis* Becker, 1896Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **AP**, Atlantic coast and Plains; Dakki 1997*Hydrellia armata* Canzoneri & Meneghini, 1976Vitte 1991, **Rif**, Ksar el Kbir, **MA**, Fès; Dakki 1997; Dakki and Himmi 2008, **MA**, Oued Sebou*Hydrellia atlas* Vitte, 1989Vitte 1989, **MA**, Dayat Aoua; Dakki 1997; Dakki et al. 2003; Chilasse and Dakki 2004, **MA***Hydrellia griseola* (Fallén, 1813)Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991; Dakki 1997; Wolff et al. 2016; **Rif** (Oued Laou) – MISR*Hydrellia maculiventris* Becker, 1896Vitte 1991, **Rif**, **AP**, Atlantic coast; Dakki 1997; Gatt and Ebejer 2003*Hydrellia maura* Meigen, 1838= *Hydrellia modesta* Loew, 1860, in Vitte 1988: 392, 1991: 29; Dakki 1997: 63



- Vitte 1988, **MA**, lakes of Middle Atlas; Zatwarnicki 1988, **MA**, Ifrane, **HA**, Vallée de l'Aït Mizane; Vitte 1991; Dakki 1997
- Hydrellia nigricans* (Stenhammar, 1844)  
Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **Rif**; Dakki 1997
- Hydrellia obscura* (Meigen, 1830)  
Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **Rif**; Dakki 1997; **Rif** (Aïn Jdioui) – MISR
- Hydrellia pubescens* Becker, 1926  
= *Hydrellia nasturtii* Collin, 1928, in Vitte 1991: 29; Dakki 1997: 63  
Vitte 1991, **MA**, Fès; Dakki 1997; Gatt and Ebejer 2003
- Hydrellia ranunculi* (Haliday, 1838)  
Vitte 1991, **AP**, Moulay Bousselham; Dakki 1997
- Hydrellia rharbia* Vitte, 1991  
Vitte 1989, **AP**, Merja Halloufa (near Moulay Bousselham); Dakki 1997; Dakki and Himmi 2008, **MA**, Oued Sebou
- Hydrellia subalbiceps* Collin, 1966  
Vitte 1991, **Rif**, Ketama; Vitte 1988, **MA**, lakes of Middle Atlas; Dakki 1997

## Notiphilini

### ***Notiphila* Fallén, 1810**

- Notiphila (Notiphila) annulipes* Stenhammar, 1844  
Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **Rif**; Dakki 1997
- Notiphila (Notiphila) cinerea* Fallén, 1830  
Séguy 1930a, **MA**, Meknès; Séguy 1941a, **HA**, Imi-n'Ouaka; Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991; Dakki 1997; Pârvu et al. 2006, **AP**, Merja Zerga; Kirk-Spriggs and McGregor 2009; **Rif** (Talasemtane, Aïn Jdioui) – MISR
- Notiphila (Notiphila) cogani* Canzoneri & Meneghini, 1979  
Vitte 1988, **MA**, lakes of Middle Atlas; Krivosheina 1998; Vitte 1991; Dakki 1997; **Rif** (Aïn Jdioui) – MISR
- Notiphila (Notiphila) dorsata* Stenhammar, 1844  
Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **AP**, coastal lake areas; Dakki 1997
- Notiphila (Notiphila) maculata* Stenhammar, 1844  
Vitte 1991, **Rif**, **AP**, coastal plains; Vitte 1988, **MA**, lakes of Middle Atlas; Dakki 1997
- Notiphila (Notiphila) riparia* Meigen, 1830  
Krivosheina 1998, **AA**, Aït Melloul (Souss); Vitte 1988, **MA**, lakes of Middle Atlas and reedbeds; Vitte 1991; Dakki 1997
- Notiphila (Notiphila) stagnicola* (Robineau-Desvoidy, 1830)  
Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991, **Rif**, **AP**, coastal plains; Dakki 1997; Pârvu et al. 2006, **AA**, Lac Edehby, Ouarzazate; Popescu-Mirceni 2011, **AA**, Ouarzazate

Ilytheinae

Hyadinini

***Hyadina* Haliday, 1837**

*Hyadina guttata* (Fallén, 1813)

Vitte 1988, **MA**, lakes of Middle Atlas; Vitte 1991; Dakki 1997

*Hyadina pollinosa* Oldenberg, 1923

Vitte 1991, **MA**, Fès; Dakki 1997

*Hyadina rufipes* (Meigen, 1830)

= *Hyadina nitida* (Macquart, 1835), in Vitte 1991: 27; Dakki 1997: 63

Vitte 1991, **AP**, Moulay Bousselham; Dakki 1997

***Nostima* Coquillett, 1900**

*Nostima picta* (Fallén, 1813)

Vitte 1991, **AP**; Vitte 1988, **MA**, lakes of Middle Atlas; Dakki 1997

***Pelina* Haliday, 1837**

*Pelina aenea* (Fallén, 1813)

Vitte 1991, **Rif**, Ouezzane; Dakki 1997

*Pelina subpunctata* Becker, 1896

Ebejer et al. 2019, **Rif**, Jebel Lakraâ (Talassemthane, 1541 m)

***Philygria* Stenhammar, 1844**

*Philygria posticata* (Meigen, 1830)

Ebejer et al. 2019, **MA**, Khénifra (17 km SW of Midelt, 1940 m)

**Acknowledgements**

We gratefully acknowledge the assistance and cooperation of Martin J. Ebejer who contributed to the revision of this family.

**Hippoboscoidea**

**HIPPOBOSCIDAE**

K. Kettani, B. Droz

Number of species: **17**. Expected: 25

Faunistic knowledge of the family in Morocco: moderate

Hippoboscinae

Hippoboscini

***Crataerina* von Olfers, 1816**

*Crataerina acutipennis* Austen, 1926

Mouna 1998: 85

*Crataerina pallida* (Latreille, 1811)

Maa 1969; Mouna 1998; **AA** (Tiznit) – MISR

***Hippobosca* Linnaeus, 1758***Hippobosca camelina* Leach, 1817= *Hippobosca dromedarina* Speiser, in Séguy 1930a: 184Séguy 1930a; Bequaert 1939, **AP**, Rabat, **EM**, Taourit, **HA**; Séguy 1953a, **AA**, Zegdou, **SA**, Oued Agouidir; Mouna 1998; **EM** (Oued el Maa) – MISR*Hippobosca equina* (Linnaeus, 1758)Séguy 1930a, **AP**, Rabat, Settat, Mogador; Séguy 1953a, **AA**, Inzegane; Maa 1969; Bequaert 1939, **MA**, Aguelmane, **HA**, Ijoukak – MISR*Hippobosca fulva* Austen, 1912Bequaert 1939, **EM**, Taourirt (Ebner), Tendirara (Ebner); Maa 1963*Hippobosca longipennis* Fabricius, 1805= *Hippobosca capensis* Olfers, in Bequaert 1939: 78Séguy 1930a, **MA**, Meknès; Bequaert 1939, **HA**, Marrakech; Maa 1963, 1969; Mouna 1998; **AA** (Agdz) – MISR*Hippobosca variegata* Megerle, 1803= *Hippobosca maculata* Leach, in Séguy 1930a: 184Séguy 1930a; Moussiaux and Desmecht 2008, **HA** (south)***Icosta* Speiser, 1905***Icosta minor* (Bigot, 1858)= *Lynchia minor* Bigot, in Mouna 1998: 85

Báez 1978; Mouna 1998

***Ornithoica* Rondani, 1878***Ornithoica turdi* (Olivier in Latreille, 1811)Maa 1966, **EM**, Figuig; Maa 1969; Mouna 1998; Droz and Haenni 2011***Ornithomyia* Latreille, 1802***Ornithomyia avicularia* (Linnaeus, 1758)

Séguy 1930a; Mouna 1998

*Ornithomyia fringillina* (Curtis, 1836)Séguy 1930a, **MA**, Meknès; Mouna 1998***Ornithophila* Rondani, 1879***Ornithophila gestroi* (Rondani, 1878)= *Ornithoza gestroi* Rondani, in Mouna 1998: 85

Mouna 1998; Pape and Thompson 2019

*Ornithophila metallica* (Schiner, 1864)= *Ornithoza metallica* Schiner

Mouna 1998: 85

***Pseudolynchia* Bequaert, 1926***Pseudolynchia canariensis* (Macquart, 1839)= *Pseudolynchia maura* Bigot, in Séguy 1930a: 184

Séguy 1930a; Mouna 1998

***Stenepteryx* Leach, 1817***Stenepteryx hirundinis* (Linnaeus, 1758)= *Crataerina hirundinis* Linnaeus, in Mouna 1998: 85Summer 1978, **MA**, Midelt; Mouna 1998

## Lipopteninae

***Lipoptena* Nitzsch, 1818***Lipoptena capreoli* Rondani, 1878

Mouna 1998: 85

***Melophagus* Latreille, 1802***Melophagus ovinus* (Linnaeus, 1758)= *Melanophagus ovinus* Linnaeus, in Mouna 1998: 85

Séguy 1930a; Maa 1969; Mouna 1998

**NYCTERIBIIDAE**

K. Kettani, G. Gracioli

Number of species: **8**. Expected: 18

Faunistic knowledge of the family in Morocco: poor

## Nycteribiinae

***Basilia* Miranda-Ribeiro, 1903***Basilia italica* Theodor, 1954

Aellen 1955

***Nycteribia* Latreille, 1796***Nycteribia (Acrocholidia) vexata* Westwood, 1835Aellen 1952; Aellen 1955, **AP**, Grotte de Sidi Bou Knadel (hosts: *Myotis oxygnathus* Monticelli, 1885, *Miniopterus shreibersii* (Kuhl, 1817) and *Rhinolophus mehelyi* (Matschie, 1901)), **MA**, Grotte de Ras el Oued (host: *Myotis oxygnathus* and *Miniopterus shreibersii*; Aellen 1963; Theodor 1967, **MA**, Oued Mellah; Mouna 1998*Nycteribia (Nycteribia) latreillei* (Leach, 1817)Séguy 1930a, **Rif**, Samsa (Tétouan); Aellen 1952; Aellen 1955, **AP**, Grotte de Sidi Bou Knadel (host: *Miniopterus shreibersii* (Kuhl, 1817)), **MA**, Grotte de Ras el Oued (hosts: *Myotis oxygnathus* Monticelli, 1885 and *Miniopterus shreibersii*); Aellen 1963; Theodor 1967, **AP**, Mazagan (host: *Myotis myotis* (Bourhausen, 1797)); Mouna 1998*Nycteribia (Nycteribia) pedicularia* Latreille, 1805= *Listropodia pedicularia* Latreille, in Séguy 1930a: 185Falcoz 1924, **Rif**, Caverne d'Hercule; Séguy 1930a, **Rif**, Caverne d'Hercule; Mouna 1998*Nycteribia (Nycteribia) schmidtlii* Schiner, 1853= *Listropodia schmidtlii* Schiner, in Séguy 1930a: 186Falcoz 1924, **Rif**, Caverne de Samsa (near Tétouan); Séguy 1930a, **Rif**, Caverne de Samsa, **SA**; Aellen 1952; Aellen 1955, **AP**, Grotte de Sidi Bou Knadel (undetermined bat), **MA**, Grotte de Ras el Ma (host: *Rhinolophus ferrumequinum* (Schreber, 1774)), Grotte de Ras el Oued (hosts: *Miniopterus shreibersii* (Kuhl,

1817) and *Myotis oxygnathus* Monticelli, 1885); Aellen 1963; Theodor 1967 (host: *Rhinolophus ferrumequinum*); Mouna 1998

***Penicillidia* Kolenati, 1963**

*Penicillidia* (*Penicillidia*) *conspicua* Speiser, 1901

Falcoz 1924, **Rif**, Caverne d'Hercule, Caverne de Samsa (near Tétouan); Séguy 1930a, **Rif**, Caverne d'Hercule, Caverne de Samsa; Aellen 1952; Aellen 1955, **MA**, Grotte de Ras el Oued, **AP**, Grotte de Sidi Bou Knadel; Aellen 1963; Mouna 1998; Koçak and Kemal 2010

*Penicillidia* (*Penicillidia*) *dufouri* (Westwood, 1835)

Falcoz 1924, **Rif**, Caverne d'Hercule; Séguy 1930a, **Rif**, Caverne d'Hercule; Aellen 1952; Aellen 1955, **AP**, Grotte de Sidi Bou Knadel, **MA**, Grotte de Ras el Oued, **AA**, Oulad Teima; Aellen 1963; Theodor 1967, **AP**, Mazagan (*Myotis myotis* (Bourhausen, 1797)); Mouna 1998; Koçak and Kemal 2010

***Phthiridium* Hermann, 1804**

*Phthiridium biarticulatum* Hermann, 1804

= *Stylidia biarticulata* Herman, in Falcoz 1924: 310; Séguy 1930a: 185

Falcoz 1924, **Rif**, Caverne de Samsa (near Tétouan); Séguy 1930a, **Rif**, Caverne de Samsa; Aellen 1952; Aellen 1955, **MA**, Grotte de Ras el Ma (host: *Rhinolophus ferrumequinum* (Schreber, 1774)), **AA**, Oulad Teima (host: *Rhinolophus ferrumequinum*); Aellen 1963; Theodor 1967 (host: *Rhinolophus ferrumequinum*); Mouna 1998

## STREBLIDAE

K. Kettani, G. Graciolli

Number of species: **2**. Expected: 7

Faunistic knowledge of the family in Morocco: poor

### Brachytarsinae

***Brachytarsina* Macquart, 1851**

*Brachytarsina flavipennis* Macquart, 1851

= *Nycteribosca kollari* Frauenfeld, in Falcósz 1924: 226; Aellen 1955: 100

Falcósz 1924, **Rif**, caverne d'Hercule, caverne de Samsa, près Tétouan (host: *Rhinolophus ferrumequinum* (Schreber, 1774)); Séguy 1930a, **Rif**, caverne d'Hercule, caverne de Samsa; Aellen 1955, **AP**, Grotte de Sidi Bou Knadel (hosts: *Rhinolophus mehelyi* (Matschie, 1901) and *Myotis oxygnathus* Monticelli, 1885); Mouna 1998; Koçak and Kemal 2010

***Raymondia* Frauenfeld, 1855**

*Raymondia huberi* Frauenfeld, 1855

= *Raymondia setosa* Jobling, 1930

Beaucournu et al. 1985, **AA**, Assa (Bas Draa) (host: *Asellia tridens* (E. Geoffroy, 1813))

## Muscoidea

## ANTHOMYIIDAE

K. Kettani, D.M. Ackland

Number of species: **36**. Expected: Many more, especially in the mountains

Faunistic knowledge of the family in Morocco: poor

## Anthomyiinae

***Adia* Robineau-Desvoidy, 1830**

*Adia cinerella* (Fallén, 1825)

= *Chortophila cinerella* Fallén, in Séguy 1930a: 162

= *Hylemyia cinerella* Fallén, in Séguy 1941d: 18

Séguy 1941d, **AA**, Agadir; Séguy 1930a; Mouna 1998; **AP** (Rabat), **HA** (Marrakech), **AA** (Tifnit (south of Agadir)) – MISR

***Anthomyia* Meigen, 1803**

*Anthomyia imbrida* Rondani, 1866

Séguy 1930a, **MA**, Meknès; Mouna 1998

*Anthomyia liturata* (Robineau-Desvoidy, 1830)

= *Hylemyia pullula* Zetterstedt, in Séguy 1930a: 162

Séguy 1930a, **MA**, Ras el Ksar (1900 m), Tameghilt (1700–1800 m), Forêt Tiffert (2000–2200 m); Mouna 1998

*Anthomyia quinquemaculata* Macquart, 1839

Ebejer et al. 2019, **Rif**, Jebel Lakraâ (Talassemthane, 1541 m), **MA**, 3.5 km S of Azrou (1450 m)

*Anthomyia pluvialis* (Linnaeus, 1758)

Séguy 1929b; Séguy 1930a, **MA**, Meknès; Michelsen 1980, **AP**, Aïn Diab; Mouna 1998; Ackland 1987, 2001; Pârvu et al. 2006, **AA**, Foum Zguid (Tata); Popescu-Mirceni 2011 – MISR

*Anthomyia procellaris* Rondani, 1866

Séguy 1929b; Séguy 1930a, **MA**, Meknès, Berkane (1350–1400 m), Tlet n'Rhoir; Mouna 1998

*Anthomyia tempestatum* Wiedemann, 1830

Michelsen and Báez 1985, **HA**; Ackland 2001; Grabener 2017

***Botanophila* Liroy, 1864**

*Botanophila dissecta* (Meigen, 1826)

Mouna 1998; **MA** (Meknès) – MISR

*Botanophila varicolor* (Meigen, 1826)

Ebejer et al. 2019, **MA**, Lac Aguelmane Sidi Ali (2052 m)

***Delia* Robineau-Desvoidy, 1830**

*Delia antiqua* (Meigen, 1826)

Mouna 1998

*Delia coarctata* (Fallén, 1825)

Mouna 1998

*Delia flavibasis* (Stein, 1903)

= *Hylemyia hordeacea* Séguy, in Séguy 1941d: 18

Séguy 1934a, **AP**, Casablanca; Séguy 1936b, **AP**, Rabat; Séguy 1941d, **AA**, Taroudant; Mouna 1998; Ackland 2008

*Delia flavogrisea* (Ringdahl, 1926)<sup>52</sup>

Pârvu et al. 2006, **AP**, Merja Zerga; Pârvu and Zaharia 2007; Popescu-Mirceni 2011

*Delia planipalpis* (Stein, 1898)

= *Chortophila pilipyga* Villeneuve, in Mouna 1998: 85

Mouna 1998; **AP** (Mazagan) – MISR

*Delia platura* (Meigen, 1826)

= *Chortophila cilicrura* Rondani, in Séguy 1930a: 162

Séguy 1949a, **SA**, Goulimine; Mouna 1998; Singh et al. 2014; Grabener 2017

*Delia radicum* Linnaeus, 1758

= *Chortophila brassicae* Bouché, in Séguy 1934b: 162, Mouna 1998: 85

Séguy 1934b, **AP**, Rabat; Mouna 1998; Biron et al. 2000, **AP**, Rabat; Andreassen 2007 – MISR

### ***Fucellia* Robineau-Desvoidy, 1842**

*Fucellia maritima* (Haliday, 1838)

Séguy 1930a, **Rif**, Agla near Cap Spartel (on *Fucus*); Cassar et al. 2008, **Rif**, Smir lagoon; Mouna 1998

### ***Hylemya* Robineau-Desvoidy, 1830**

*Hylemya vagans* (Panzer, 1798)

Mouna 1998 – MISR

### ***Leucophora* Robineau-Desvoidy, 1830**

*Leucophora cinerea* Robineau-Desvoidy, 1830

Ebejer et al. 2019, **MA**, 17 km SW of Midelt (Khénifra, 1940 m)

*Leucophora dissimilis* (Villeneuve, 1920)

Ebejer et al. 2019, **MA**, 17 km NW of Zaida (Khénifra, 1878 m)

### ***Paregle* Schnabl, 1911**

*Paregle audacula* (Harris, 1780)

Pârvu and Zaharia 2007

*Paregle pilipes* (Stein, 1916)

Mouna 1998

---

<sup>52</sup> The record of *Delia flavogrisea* needs to be verified. No details or genitalia figures are given. Although it is possible that this species could occur in Morocco, it is not recorded from Spain. Described from northern Sweden, it was recorded by G.C.D. Griffiths from Yukon, northern Canada (1993, Flies of the Nearctic Region Vol. VIII, Part 2, No 10: 1509), where excellent figures of the genitalia are given. It has also been recorded from northern China.

***Phorbia* Robineau-Desvoidy, 1830***Phorbia fumigata* (Meigen, 1826)= *Phorbia securis* Tiensuu, in Maarouf et al. 1996: 17

Balachowsky and Mesnil 1935; Bleuton 1938; Jourdan 1938; Maarouf and Chemseddine 1995, **AP**, Chaouia, Doukkala, Abda; Maarouf and Chemseddine 1995, **HA**, Chaouia, Doukkala, Abda; Maarouf et al. 1996, **AP**, Safi, Settat, Sidi El Aydi, Jemaa Riah, Berrechid, Médiouna, Mohammédia, Bouznika, Skhirat, Kénitra, Sidi Allal Tazi, Souk Larbaa du Gharb, **MA**, Khernisset, Meknès, Douiyat, Fès, Sefrou, Annaceur, Oulad Saïd, El Aounate, Sidi Bennbur, Zemarnra, Chemmaïa, Jemaa, des Shaïm, Tlet Sidi Bouguedra, Khemisset Chaouïa, Béni Mellal, **HA**, Skhour Rehamna, Ben Guérir, Marrakech, Tamel-lalet, Kelaâ des Sraghna, Oulad Ayad, Afourér, Azilal, El Borouj, Guisser; Lhaloui et al. 1998

*Phorbia sepia* (Meigen, 1826)Bleuton 1938, **MA**, Fès, Meknès, Taza; Jourdan 1938; Mouna 1998***Subhylemyia* Ringdahl, 1933***Subhylemyia longula* (Fallén, 1824)Mouna 1998; **AP** (Cap Cantin) – MISR

## Pegomyinae

***Calythea* Schnabl in Schnabl and Dziedzicki 1911***Calythea nigricans* (Robineau-Desvoidy, 1830)= *Calythea albicincta* Fallén, in Séguy 1930a: 161Séguy 1930a, **MA**, Meknès, Aïn Leuh; Mouna 1998***Mycophaga* Rondani, 1856***Mycophaga testacea* (Gimmerthal, 1834)Ebejer et al. 2019, **Rif**, Jebel Lakraâ (Talassemiane, 1541 m)***Pegomya* Robineau-Desvoidy, 1830***Pegomya betae* (Curtis, 1847)Rungs 1962, **AP**; Mouna 1998*Pegomya bicolor* (Wiedemann, 1817)Séguy 1934b, **AP**, Rabat; Koçak and Kemal 2010; Pitkin et al. 2011*Pegomya hyoscyami* (Panzer, 1809)Rungs 1962, **AP**; Mouna 1998; **AP** (Rabat) – MISR*Pegomya rufina* (Fallén, 1825)

Mouna 1998

*Pegomya testacea* (De Geer, 1776)= *Pegomya silacea* Meigen, in Mouna 1998: 85Séguy 1930a, **MA**, Forêt Tiffert (2000–2200 m); Mouna 1998*Pegomya solennis* (Meigen, 1826)= *Pegomyia nigritarsis* Fallén, in Séguy 1935a: 119Séguy 1935a, **AA**, Oued Draa (Taffagount); Rungs 1962; Mouna 1998



*Pegomya terminalis* Rondani, 1866

Ebejer et al. 2019, **Rif**, Adrou (556 m), Jebel Lakraâ (Talassemthane, 1541 m)

*Pegomya winthemi* (Meigen, 1826)

Mouna 1998

***Pegoplata* Schnabl & Dziedzicki, 1911**

*Pegoplata annulata* (Pandellé, 1899)

= *Pegoplata virginea* auctt, not Meigen

**AP** (Rabat) – MISR

## FANNIIDAE

K. Kettani, A.C. Pont

Number of species: **10**. Expected: 17

Faunistic knowledge of the family in Morocco: poor

***Fannia* Robineau-Desvoidy, 1830**

*Fannia canicularis* (Linnaeus, 1761)

Becker and Stein 1913, **Rif**, Tanger; Charrier 1927; Séguy 1930a, **HA**, Tenfecht; Séguy 1932a; Séguy 1941a; Séguy 1941d, **HA**; Séguy 1953a, **AP**, Rabat; Pont 1986a; Mouna 1998; Pont pers. comm., **MA**, Azrou; **AP** (Dradek) – MISR

*Fannia cothurnata* (Loew, 1873)<sup>53</sup>

Mouna 1998

*Fannia krimensis* Ringdahl, 1934

Pont 1983, **HA**, Jebel Ayachi; Pont 1986a; Mouna 1998

*Fannia lepida* (Wiedemann, 1817)

Pont pers. comm.

*Fannia leucosticta* (Meigen, 1838)

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **MA**; Pont 1986a; Mouna 1998

*Fannia monilis* (Haliday, 1838)

Ebejer et al. 2019, **Rif**, Jebel Lakraâ (Talassemthane, 1541 m), Dardara (484 m)

*Fannia norvegica* Ringdahl, 1934

Pont 1986a; Pont pers. comm., **HA**, Jebel Ayachi

*Fannia pallidibasis* Pont, 1983

Pont 1983, **HA**, Jebel Ayachi; Mouna 1998

*Fannia scalaris* (Fabricius, 1794)

Charrier 1927, **Rif**, Tanger; Séguy 1930a; Séguy 1941a, **HA**; Séguy 1953a, **AP**, Rabat; Pont 1986a; Mouna 1998; **Rif** (Tanger): Caverne d'Hercule (Pont pers. comm.) – MHNP

<sup>53</sup> We do not have any knowledge of *Fannia cothurnata* in Morocco. Identification is difficult, but it could be correct.

*Fannia sociella* (Zetterstedt, 1845)<sup>54</sup>

Mouna 1998

## MUSCIDAE

K. Kettani, A.C. Pont

Number of species: **115**. Expected: 140

Faunistic knowledge of the family in Morocco: moderate

### Atherigoninae

#### *Atherigona* Rondani, 1856

*Atherigona humeralis* (Wiedemann, 1830)

Pont pers. comm., **AP**, Casablanca

*Atherigona pulla* (Wiedemann, 1830)

Pont 1986b; Pont pers. comm., **AP**, Larache, Rabat, **HA**, Asni, **AA**, Agadir, Taroudant

*Atherigona soccata* Rondani, 1871

= *Atherigona varia* (Meigen, 1826) (misidentifications of authors) in Séguy 1930a: 159  
Bléton and Fieuzet 1943, **MA**, Fès; Séguy 1953a, **AP**, Rabat, Sidi Yahia du Gharb; Mouna 1998; Pont 1986b

*Atherigona varia* (Meigen, 1826)

= *Atherigona quadripunctata* Rossi, in Séguy 1949a: 159

Séguy 1930a, **Rif**, Tanger; Séguy 1941d; Séguy 1949a, **AA**, Akka, Alnif; Bléton and Fieuzet 1943, **MA**, Meknès, Gharb, Fouarat; Séguy 1953a, **AP**, Sidi Yahia du Gharb, Rabat; Pont 1986b; Mouna 1998; Pont pers. comm., **Rif**, Meloussa, Tanger, **AP**, Larache, Rabat, **HA**, Jebel Ayachi, **AA**, Akka

*Atherigona (Acritochaeta) yorki* Deeming, 1971

Pont 1986b, 1991a; Dike 1990; Pont pers. comm., **AP**, Rabat

### Azeliinae

#### Azeliini

#### *Azelia* Robineau-Desvoidy, 1830

*Azelia parva* Rondani, 1866

Michelsen pers. comm., **Rif**, Ouezzane

#### *Hydrotaea* Robineau-Desvoidy, 1830

*Hydrotaea aenescens* (Wiedemann, 1830)

Morocco, first record 1989; Pont et al. 2007

*Hydrotaea armipes* (Fallén, 1825)

Pont 1986b; Pont pers. comm., **MA**, Azrou, **HA**, Jebel Ayachi

<sup>54</sup> We do not have any knowledge of *Fannia sociella* in Morocco. Its occurrence there seems doubtful.

*Hydrotaea capensis* (Wiedemann, 1818)

= *Ophyra anthrax* (Meigen, 1826), in Séguy 1941d: 20

Séguy 1934b, **AP**, Chellah; Séguy 1941d, **AA**, Agadir; Pont 1986b; Hernández-Moreno and Peris 1989, **Rif**, Tanger; Mouna 1998; Turchetto et al. 2003; Pont pers. comm., **HA**, Jebel Ayachi; **Rif** (Environ de Tanger (Pont pers. comm.)) – MHNP

*Hydrotaea cinerea* Robineau-Desvoidy, 1830

Pont 1986b; Pont pers. comm., **HA**, Jebel Ayachi

*Hydrotaea dentipes* (Fabricius, 1805)

Pont 1986b; Pont pers. comm., **HA**, Jebel Ayachi

*Hydrotaea floccosa* Macquart, 1835

= *Hydrotaea armipes* (Fallén, 1825) (misidentifications of authors) in Charrier 1927: 620

Charrier 1927, **Rif**, Tanger; Pont 1986b; Pont pers. comm., **MA**, Azrou, **HA**, Jebel Ayachi

*Hydrotaea glabricula* (Fallén, 1825)

Pont 1986b; Pont pers. comm., **AP**, Forêt Maâmora

*Hydrotaea ignava* (Harris, 1780)

= *Ophyra leucostoma* (Wiedemann, 1817), in Séguy 1953a: 87

Séguy 1953a, **HA**, Tadla; Pont 1986b; Hernández-Moreno and Peris 1989, **Rif**, Tanger; Pont pers. comm., **AP**, Casablanca

*Hydrotaea pellucens* Portschinsky, 1879

Pont 1986b; Pont pers. comm., **HA**, Jebel Ayachi

*Hydrotaea tuberculata* Rondani, 1866

Michelsen pers. comm., **AP**, Rabat

*Hydrotaea velutina* Robineau-Desvoidy, 1830

Pont 1986b; Pont pers. comm., **HA**, Jebel Ayachi

***Thricops* Rondani, 1856**

*Thricops simplex* (Wiedemann, 1817)

Pont 1986b, 1991b; Pont pers. comm., **HA**, Jebel Ayachi

Reinwardtiini

***Muscina* Robineau-Desvoidy, 1830**

*Muscina levida* (Harris, 1780)

= *Muscina assimilis* (Fallén, 1823)

Mouna 1998 – MHNP (no locality, on *Boletus nigrescens* (Pont pers. comm.)); **AP** (Rabat) – MISR

*Muscina prolapsa* (Harris, 1780)

= *Muscina pabulorum* (Fallén, 1817)

Mouna 1998; Michelsen pers. comm., **AP**, Rabat, Larache; **AP** (Sidi Yahia) – MISR

*Muscina stabulans* (Fallén, 1817)

Becker and Stein 1913, **Rif**, Tanger; Charrier 1927, **Rif**, Tanger; Séguy 1930a, **AP**, Rabat, Mogador, **MA**, Meknès, **HA**, Aguerd El Had, Souss; Séguy 1932,

**HA**, Taroudant; Séguy 1934b, **AP**, Rabat; Séguy 1953a, **AP**, Rabat, Salé, Forêt Maâmora, Salé; Pont 1986b; Mouna 1998; Pont pers. comm., **AP**, Casablanca, **MA**, El Kebab, **HA**, Jebel Ayachi; **AP** (Casablanca, Rabat (Pont pers. comm.)) – MHNP; MISR

## Coenosiinae

### Coenosiini

#### ***Coenosia* Meigen, 1826**

*Coenosia antennata* (Zetterstedt, 1849)

Michelsen pers. comm., **AP**, Larache

*Coenosia atra* Meigen, 1830

Pont 1986b; Barták et al. 2004; Barták and Kubik 2005; Pont pers. comm., **HA**, Jebel Ayachi

*Coenosia attenuata* Stein, 1903

Pont 1986b; Pont pers. comm., **EM**, Figuig

*Coenosia humilis* Meigen, 1826

Pont 1986b; Pont pers. comm., **EM**, Figuig, **HA**, Imlil, Asni, **AA**, Agadir

*Coenosia mixta* Schnabl, 1911

Pont 1986b

*Coenosia nevadensis* Lyneborg, 1970

Pont 1986b; Pont pers. comm., **HA**, Jebel Ayachi

*Coenosia pedella* (Fallén, 1825)

= *Coenosia decipiens* Meigen 1826 (certainly a misidentification) in Charrier 1927: 620  
Charrier 1927, **Rif**, Tanger

*Coenosia praetexta* Pandellé, 1899

Michelsen pers. comm., **AP**, Larache, Rabat

*Coenosia pumila* (Fallén, 1825)<sup>55</sup>

Pont 1986b; Mouna 1998; Gregor et al. 2002

*Coenosia testacea* (Robineau-Desvoidy, 1830)

Pont 1986b; Pont pers. comm., **MA**, Ifrane, **HA**, Jebel Ayachi

*Coenosia tigrina* (Fabricius, 1775)

Séguy 1930a, **AP**, Rabat, **MA**, Meknès; Pont 1986b; Mouna 1998; Pont pers. comm., **MA**, Ifrane, **HA**, Jebel Ayachi; **MA** (Ifrane) – MISR

#### ***Lispocephala* Pokorny, 1893**

*Lispocephala brachialis* (Rondani, 1877)

Pont 1986b; Gregor et al. 2002; Barták and Kubik 2005; Pont pers. comm., **HA**, Jebel Ayachi

*Lispocephala mikii* (Strobl, 1893)

Pont 1986b; Pont pers. comm., **EM**, Figuig, **HA**, Jebel Ayachi, **AA**, Agadir

<sup>55</sup> *Coenosia pumila* requires verification. It is not known from Spain and is distributed in temperate areas of Europe. It may be found in the High Atlas Mts, but specimens from there require confirmation.

*Lispocephala ungulata* (Rondani, 1866)

Ackland and Pont 1966, **HA**, Jebel Ayachi; Pont 1986b

**Orchisia Rondani, 1877**

*Orchisia costata* (Meigen, 1826)

Charrier 1927, **Rif**, Tanger; Pont 1986b

**Schoenomyza Haliday, 1833**

*Schoenomyza litorella* (Fallén, 1823)

Séguy 1941a, **HA**, Tachdirt (Toubkal, 2500 m); Pont 1986b; Mouna 1998;  
Pont pers. comm., **EM**, Figuig, **HA**, Asni, Imlil, Jebel Ayachi

## Limnophorini

**Limnophora Robineau-Desvoidy, 1830**

*Limnophora bipunctata* Stein, 1908

Pont 1986b; Pont pers. comm., **EM**, Figuig

*Limnophora flavitarsis* Stein, 1908

Pont pers. comm., **EM**, Figuig, **HA**, Jebel Ayachi

*Limnophora mediterranea* Pont, 2012

Pont pers. comm., **HA**, Jebel Ayachi

*Limnophora obsignata* (Rondani, 1866)

Séguy 1930a, **MA**, Aïn Leuh, **HA**, Aguerd El Had, Souss (Talekjount); Pont 1986b; Dakki 1997; Mouna 1998; Pont pers. comm., **MA**, Ifrane, **HA**, Jebel Ayachi, **AA**, Agadir

*Limnophora olympiae* Lyneborg, 1965

Pont 1986b; Pont et al. 2012a; Pont pers. comm., **HA**, Jebel Ayachi

*Limnophora pandellei* Séguy, 1923

Pont 1986b; Pont pers. comm., **HA**, Jebel Ayachi

*Limnophora pollinifrons* Stein, 1916

Pont 1986b; Pont et al. 2012a; Pont pers. comm., **MA**, Aïn El Orma

*Limnophora riparia* (Fallén 1824)

= *Melanochelia riparia* Fallén, in Séguy 1930a: 160

Séguy 1930a, **AA**, Souss (Tenfecht); Vaillant 1956b, **HA**, Cascade Siroua, Lac Tamhda (Anremer), Sidi Chamarouch; Pont 1986b; Mouna 1998

*Limnophora rufimana* (Strobl, 1893)

Séguy 1930a, **MA**, Aïn Leuh; Pont 1986b; Pont pers. comm., **EM**, Figuig, **HA**, Jebel Ayachi

*Limnophora tigrina* (Am Stein, 1860)

Pont 1986b; Pont pers. comm., **HA**, Jebel Ayachi

**Lispe Latreille, 1797**

*Lispe assimilis* Wiedemann, 1824

= *Lispe inexpectata* Canzoneri & Meneghini, 1966

Canzoneri and Meneghini 1966, **MA**, Oued Fès (Taza); Pont 1986b; Vikhrev 2012b, **AP**, Essaouira, **HA**, Marrakech, **SA**, Tan-Tan

*Lispe apicalis* Mik, 1869

Canzoneri and Meneghini 1966, **MA**, Oued Sebou, **EM**, Guercif (Oued Moulouya); Canzoneri and Meneghini 1972, **MA**, Taza, Oued Fès; Pont 1986b; Koçak and Kemal 2010

*Lispe bengalensis* (Robineau-Desvoidy, 1830)

= *Lispe berlandi* Séguy, in Séguy 1940: 341

Séguy 1940, **AA**, Rio de Oro (Oued Eddahab) (type locality of *berlandi*)

*Lispe caesia* Meigen, 1826

= *Lispe microchaeta* Séguy, in Séguy 1940: 342

Séguy 1940, **AA**, Rio de Oro (Oued Eddahab) (type locality of *microchaeta*); Canzoneri and Meneghini 1966, **AP**, Fedhala (Oued Nefifikh), Saline di Sète; Pont 1986b; Mouna 1998; Koçak and Kemal 2010; Vikhrev et al. 2016, **AP**, Oualidia lagoon, Essaouira, **SA**, Tan-Tan (salt lagoon); **AP** (Chellah) – MISR; ZMUM

*Lispe candicans* Kowarz, 1892

Séguy 1940, **AA**, Rio de Oro (Villa Cisneros)

*Lispe cilitarsis* Loew, 1856

Vikhrev 2012b, **SA**, Tan-Tan province

*Lispe draperi* Séguy, 1930

Canzoneri and Meneghini 1966, **MA**, Azrou, Aguelmane, Fès (Oued Sebou); Vikhrev 2011a, **AP**, Essaouira, **HA**, Oued N'fis (east of Marrakech)

*Lispe halophora* Becker, 1903

Vikhrev pers. comm., **SA**, Tan-Tan province

*Lispe kowarzi* Becker, 1903

Vikhrev 2012c, **AP**, Essaouira

*Lispe loewi* Ringdahl, 1922

= *Lispe litorea* Fallén, 1825 (misidentification of authors) in Séguy 1930a: 160

Séguy 1930a, **AP**, saline mud in Mediterranean region; Canzoneri and Meneghini 1966, **AP**, Fedhala; Pont 1986b; Dakki 1997; Mouna 1998

*Lispe marina* Becker, 1913

Michelsen pers. comm., **AP**, Larache

*Lispe melaleuca* Loew, 1847

Canzoneri and Meneghini 1966, **MA**, Azrou (Aguelmane); Pont 1986b, 1991b

*Lispe modesta* Stein, 1913

Vikhrev 2012b, **AP**, Essaouira, **HA**, Marrakech, **SA**, Tan-Tan

*Lispe nana* Macquart, 1835

Canzoneri and Meneghini 1966, **MA**, Taza (Oued Fès), Fès (Oued Sebou), Azrou (Aguelmane), **EM**, Guercif (Oued Moulouya); Pont 1986b; Mouna 1998; Pont pers. comm., **MA**, Aïn el Orma, **EM**, Figuig, **HA**, Jebel Ayachi; **Rif** (Oued Laou dunes), **AP** (Rabat) – MISR

*Lispe nivalis* Wiedemann, 1830

Canzoneri and Meneghini 1966, **MA**, Taza (Oued Fès); Pont 1986b, 1991; Vikhrev 2012c, **AP**, Essaouira, **HA**, Ouarzazate province, **SA**, Tan-Tan province; Pont pers. comm., **MA**, Aïn El Orma

*Lispe pectinipes* Becker, 1903

= *Lispa mixticia* Séguy, in Séguy 1941d: 19

Séguy 1941d, **HA**, Taroudant (type locality of *mixticia*); Pont 1986b; Mouna 1998; Kirk-Spriggs and McGregor 2009; Vikhrev 2011b, **AP**, Essaouira; Pont pers. comm., **HA**, Jebel Ayachi

*Lispe pygmaea* Fallén, 1825

Canzoneri and Meneghini 1966, **MA**, Azrou (Aguelmane); Pont 1986b; Vikhrev 2012a, **AP**, Essaouira

*Lispe rigida* Becker, 1903

Canzoneri and Meneghini 1966, **MA**, Taza (Oued Fès); Pont 1986b, 1991; Vikhrev 2012c, **HA**, Ouarzazate

*Lispe scalaris* Loew, 1847

= *Lispe maroccana* Canzoneri & Meneghini, 1966 (as *scalaris* ssp.)

= *Lispe persica* Becker, 1904 in Kirk-Spriggs and McGregor 2009

Canzoneri and Meneghini 1966, **AP**, Fedhala, Dielfa (Oued Tadmidi), **EM**, Guercif (Oued Moulouya), **MA**, Fès (Oued Sebou); Pont 1986b; Kirk-Spriggs and McGregor 2009; Vikhrev 2012a, **HA**, Ouarzazate province

*Lispe tentaculata* (De Geer, 1776)

Séguy 1930a, **HA**, Kasba Taguendaft (Goundafa), Skoutana (Arround); Séguy 1941a, **HA**, Imi-n'Ouaka (1500 m); Pont 1986b; Dakki 1997; Mouna 1998; Kirk-Spriggs and McGregor 2009; Pont pers. comm., **MA**, Aïn el Orma, **EM**, Figuig, **HA**, Jebel Ayachi; **AP** (Rabat), **HA** (Tizi-n'Tichka) – MISR

## Muscinae

## Muscini

***Dasyphora* Robineau-Desvoidy, 1830***Dasyphora albofasciata* (Macquart, 1839)

= *Dasiphora saltuum* Rondani, 1862

Pont 1986b; Mouna 1998; Pont pers. comm., **HA**, Jebel Ayachi

*Dasyphora penicillata* (Egger, 1856)

Pont 1986b; Koçak and Kemal 2010; Pont pers. comm., **HA**, Jebel Ayachi

*Dasyphora cyanella* (Meigen, 1826)

Peris and Llorente 1963, **Rif**, Tanger; Mouna 1998

***Morellia* Robineau-Desvoidy, 1830***Morellia asetosa* Baranov, 1925

= *Morellia simplex* (Loew, 1857) (misidentification of authors) in Peris and Llorente 1963, **Rif**, Tanger; Pont 1986b<sup>56</sup>

***Musca* Linnaeus, 1758***Musca autumnalis* De Geer, 1776

<sup>56</sup> *Morellia simplex* is almost certainly a misidentification of *Morellia asetosa* Baranov, 1925, which replaces it in the south and south-east of the West Palearctic Region.

= *Musca corvina* Fabricius, 1781 in Séguy 1930a: 156

Charrier 1927, **Rif**, Tanger; Séguy 1930a, **AP**, Rabat, **MA**, Oued Korifla, Meknès; Pont 1986b; Mouna 1998; Pont pers. comm., **MA**, Azrou, **HA**, Jebel Ayachi; **MA** (Volubilis), **AA** (Tifnit) – MISR

*Musca biseta* Hough, 1898

Pont 1986b; Pont pers. comm., **AP**, Temara, **MA**, Timhadit, Meknès, **EM**, near Figuig

*Musca domestica* Linnaeus, 1758

Charrier 1927, **Rif**, Tanger; Séguy 1930a, 1932, 1934b, **AP**, Casablanca; Séguy 1934c, **AP**, Casablanca; Séguy 1941a, **HA**; Peris and Llorente 1963, **Rif**, Tanger, Melilla, Bab Taza, El Ajmas, Yebala; Pont 1986b; Mouna 1998; Pârvu et al. 2006, **AA**, Tiggane Tata; Popescu-Mirceni 2011; Pont pers. comm., **AP**, Temara, **MA**, Timhadit, Orionane, Lixus, Meknès, **HA**, Jebel Ayachi; Grabener 2017; **HA** (Jebel Tachdirt, 3100 m, Tachdirt (Bords Imminen), 2400–2600 m, Kasba Taguendaft (Goundafa), Andjera (Pont pers. comm.)) – MHNP

*Musca larvipara* Portschinsky, 1910

Peris and Llorente 1963, **Rif**, Tanger; Pont 1986b; Pont pers. comm., **AP**, Forêt Maâmora

*Musca osiris* Wiedemann, 1830

= *Musca vitripennis* Meigen, 1826 (misidentifications of authors) in Séguy 1930a: 157  
Séguy 1941d, **AA**, Agadir; Pont 1986b

*Musca sorbens* Wiedemann, 1830

= *Musca angustifrons* Thomson, 1869 (misidentification of authors) in Séguy 1930a: 156, 1940: 245, 1953a: 88  
Séguy 1930a, **MA**, Oued Korifla, **HA**, Talingoult (Goundafa), Souss; Séguy 1940, **AA**, Rio de Oro (Villa Cisneros); Séguy 1941d, **AA**, Agadir; Séguy 1949a, **AA**, from Foum Zguid to Zagora; Saccà 1952; Séguy 1953a, **AP**, Rabat; Peris and Llorente 1963; Pont 1986b, **Rif**, Melilla, Tanger, **AP**, Mogador; Mouna 1998; Koçak and Kemal 2010; Pont pers. comm., **MA**, Timhadit, **HA**; Grabener 2017 – MISR

*Musca tempestiva* Fallén, 1817

Séguy 1941d; Pont 1986b; Pont pers. comm., **AP**, Forêt Maâmora, **HA**, Asni

*Musca vitripennis* Meigen, 1926

= *Plaxemyia vitripennis* Meigen, 1826 in Becker and Stein 1913: 91

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **MA**, Ras el Ksar, Aïn Leuh, **HA**, Tinmel (Goundafa), Arround (Skoutana); Séguy 1941d, **AA**, Agadir; Peris and Llorent 1963, **Rif**, Tanger, Melilla, **AP**, Mogador; Pont 1986b; Mouna 1998; Pont pers. comm., **HA**, Jebel Ayachi; **Rif** (environs de Tanger, Sart. route de Spartel (Pont pers. comm.)) – MHNP; **AP** (Cap Cantin, Dradek), **MA** (Azrou) – MISR

*Neomyia* Walker, 1859

*Neomyia cornicina* (Fabricius, 1781)

= *Cryptolucilia caesarion* (Meigen, 1826) in Séguy 1930a: 156



Becker and Stein 1913, **Rif**, Tanger; Charrier 1927, **Rif**, Tanger; Séguy 1930a, **Rif**, Tanger (Oued Judios), **AP**, Rabat, **MA**, M'Rirt, Aïn Leuh, Tizi-s'Tkrine, Forêt Zaers, Forêt Tiffert, **HA**, Arround (Skoutana), Tachdirt; Séguy 1941d (very common); Peris and Llorente 1963, **Rif**, Tanger, **AP**, Mogador, Tzalatza, Reisana, Desembocadura del Lixus; Pont 1986b; Dakki 1997; Mouna 1998; Pont pers. comm., **MA**, Azrou, **HA**, Jebel Ayachi – MISR

*Neomyia viridescens* (Robineau-Desvoidy, 1830)

= *Orthellia cornicina* (Fabricius, 1781) (misidentifications of authors)

Charrier 1927, **Rif**, Tanger; Pont 1986b; Pont pers. comm., **HA**, Jebel Ayachi

### ***Polietes* Rondani, 1866**

*Polietes meridionalis* Peris & Llorente, 1963

Peris and Llorente 1963, **Rif**, Tanger; Pont 1986b; Pont pers. comm., **HA**, Jebel Ayachi

### ***Pyrellia* Robineau-Desvoidy, 1830**

*Pyrellia vivida* Robineau-Desvoidy, 1830

= *Pyrellia cadaverina* (Linnaeus, 1758) (misidentifications of authors) in Charrier 1927: 620; Séguy 1930a: 156; Peris and Llorente 1963: 252

= *Pyrellia serena* (Meigen, 1826) (misidentification of authors) in Charrier 1927: 620

Charrier 1927, **Rif**, Tanger; Séguy 1930a, **MA**, Aïn Leuh; Peris and Llorente 1963, **Rif**, Tanger; Pont 1986b; Pont pers. comm., **HA**, Jebel Ayachi

## Stomoxyini

### ***Haematobia* Le Peletier & Serville, 1828**

*Haematobia irritans* (Linnaeus, 1758)

= *Lyperosia irritans* (Linnaeus, 1758) in Séguy 1930a: 157

Séguy 1930a, **MA**, Meknès; Pont 1986b; Mouna 1998

### ***Stomoxys* Geoffroy, 1762**

*Stomoxys calcitrans* (Linnaeus, 1758)

Charrier 1927, **Rif**, Tanger; Séguy 1930a; Séguy 1941d; Peris 1951, **Rif**, Tanger; Pont 1986b; Mouna 1998; Pârvu et al. 2006, **AA**, Tiggane Tata; Dsouli 2009; Popescu-Mirceni 2011; Pont pers. comm., **MA**, Meknès, Timhadit, Azrou, Sidi Mjber, Neguerett, Tazekka, **HA**, Jebel Ayachi, El Kebab, **AA**, Figuig; **HA** (Haute Réghaya (Pont pers. comm.)) – MHNP; **AP** (Rabat), **MA** (Volubilis), **HA** – MISR

## Mydaeinae

### ***Graphomya* Robineau-Desvoidy, 1830**

*Graphomya maculata* (Scopoli, 1763)

Séguy 1930a, **MA**, Forêt Zaers, Aïn Leuh; Pont 1986b; Mouna 1998; Pont pers. comm., **HA**, Jebel Ayachi; **MA** (Volubilis) – MISR

***Gymnodia* Robineau-Desvoidy, 1863***Gymnodia eremophila* (Brauer & Bergenstamm, 1894)Pont 1986b; Pont pers. comm., **HA**, Jebel Ayachi*Gymnodia polystigma* (Meigen, 1826)= *Limnophora polystigma* (Meigen, 1826)= *Brontaea polystigma* (Meigen, 1826)Mouna 1998; **AP** (Rabat) – MISR*Gymnodia genurufa* (Pandellé, 1899)Pont 1986b; Pont pers. comm., **HA**, Jebel Ayachi*Gymnodia tonitrui* (Wiedemann, 1824)= *Limnophora tonitrui* (Wiedemann, 1824)= *Brontaea tonitrui* (Wiedemann, 1824)Séguy 1949a, **AA**, Tata; Saccà 1952, **AP**, Rabat; Pont 1986b; Mouna 1998***Hebecnema* Schnabl, 1889***Hebecnema fumosa* (Meigen, 1826)Séguy 1930a, **AP**, Casablanca; Pont 1986b; Mouna 1998; Pont pers. comm., **MA**, Azrou, **HA**, Jebel Ayachi; **Rif** (Tanger), **AP** (Mogador (Pont pers. comm.)) – MHNP*Hebecnema nigra* (Robineau-Desvoidy, 1830)= *Hebecnema vespertina* (Fallén, 1823) (misidentifications of authors) in Séguy 1930a: 159Séguy 1930a, **AP**, Casablanca; Pont 1986b; Mouna 1998; Pont pers. comm., **HA**, Jebel Ayachi*Hebecnema umbratica* (Meigen, 1826)

Pont 1986b

***Myospila* Rondani, 1856***Myospila meditabunda* (Fabricius, 1781)Séguy 1941d, **AA**, Agadir; Pont 1970; Pont 1986b; Mouna 1998; Pont pers. comm., **HA**, Jebel Ayachi; **AP** (Cap Cantin) – MISR

## Phaoniinae

***Helina* Robineau-Desvoidy, 1830***Helina clara* (Meigen, 1826)= *Mydaea clara* (Meigen, 1826) in Séguy 1930a: 159Becker and Stein 1913, **Rif**, Tanger; Charrier 1927, **Rif**, Tanger; Séguy 1930a, **AP**, Rabat; Pont 1986b; Mouna 1998; **AP** (Rabat) – MISR*Helina czernyi* Lyneborg, 1970Michelsen pers. comm., **Rif**, Chefchaouen, Ouezzane, **MA**, Azrou, **HA**, Asni*Helina evecta* (Harris, 1780)= *Mydaea lucorum* (Fallén, 1823) in Séguy 1930a: 159Séguy 1930a; Werner 1938, **EM**, Oudjda-Berguent; Pont 1986b; Mouna 1998; Pont pers. comm., **MA**, Ifrane, **HA**, Jebel Ayachi

*Helina nevadensis* Lyneborg, 1970

Pont 1986b; Pont pers. comm., **Rif**, Talassemtane, **HA**, Jebel Ayachi

*Helina parcepilosa* (Stein, 1907)

Michelsen pers. comm., **AP**, Rabat, **HA**, Tinerhir

*Helina quadrum* (Fabricius, 1805)

= *Mydaea quadrum* “Fallén” in Séguy 1930a: 159

Séguy 1930a, **AP**, Rabat; Pont, 1986b; Mouna 1998

*Helina reversio* (Harris, 1780)

Pont 1986b; Pont pers. comm., **MA**, Azrou, **HA**, Jebel Ayachi; **MA** (Forêt Timelilt, 1650–1900 m (Pont pers. comm.)) – MNHN

*Helina richardi* Pont, 2012

Pont 2012b, **Rif**, Ras el Ma, **MA**, Azrou, **HA**, Jebel Ayachi

*Helina sexmaculata* (Preyssler, 1791)

= *Mydaea uliginosa* (Fallén, 1825)

Mouna 1998; Grabener 2017; **MA** (Aguelmane Azigza) – MISR

*Helina vockerothi* Lyneborg, 1970

Michelsen pers. comm., **HA**, Tizi-n'Test (2100 m), Asni

**Phaonia Robineau-Desvoidy, 1830**

*Phaonia cincta* (Zetterstedt, 1846)<sup>57</sup>

Charrier 1927, **Rif**, Tanger; Pont 1986b (record queried); Koçak and Kemal 2010

*Phaonia errans* (Meigen, 1826)

Mouna 1998; Michelsen pers. comm., **MA**, Azrou; **AP** (Chellah), **MA** (Ifrane) – MISR

*Phaonia exoleta* (Meigen, 1826)

Michelsen pers. comm., **AP**, Larache

*Phaonia mediterranea* Hennig, 1963

Pont 1973, **HA**, Jebel Ayachi; Pont 1986b; Mouna 1998; Gregor et al. 2002

*Phaonia rufipalpis* (Macquart, 1835)

Michelsen pers. comm., **Rif**, Ouezzane

*Phaonia scutellata* (Zetterstedt, 1845)

Michelsen pers. comm., **Rif**, Ouezzane, **HA**, Asni, Tizi-n'Test, **AA**, Aoulouz

*Phaonia subventa* (Harris, 1780)

Vikhrev and Erofeeva 2018, **HA**, Oukaimeden (2000 m); **Rif** (environs de Tanger (Pont pers. comm.)) – MHNP

*Phaonia trimaculata* (Bouché, 1834)

Séguy 1930a, **AP**, Casablanca; Séguy 1934b, **AP**, Maâmora; Séguy 1953a, **AP**, Port Lyautey, Maâmora, Rabat; Pont 1986b; Dakki 1997; Mouna 1998; Pont pers. comm., **AP**, Forêt Maâmora, **HA**, Jebel Ayachi; **AP** (Rabat) – MISR

*Phaonia tuguriorum* (Scopoli, 1763)

= *Phaonia signata* (Meigen, 1826) in Séguy 1930a: 158

<sup>57</sup> *Phaonia cincta* requires verification. It is known from Spain and from the Middle East, and its occurrence in Morocco is possible.

- Séguy 1930a, **MA**, Forêt Timlilt; Pont 1986b; Dakki 1997; Mouna 1998;  
 Pont pers. comm., **HA**, Jebel Ayachi  
*Phaonia valida* (Harris, 1780)  
 = *Phaonia erratica* (Fallén, 1825) (misidentifications of authors) in Séguy 1953a: 87  
 Séguy 1953a, **MA**, Ifrane; Pont 1986b; Pont pers. comm., **HA**, Jebel Ayachi;  
**MA** (Ifrane (Pont pers. comm.)) – MHNP  
*Phaonia* sp. near *szelenyii* Mihályi, 1974  
**HA** (Haute Réghaya (Pont pers. comm.)) – MHNP

## SCATHOPHAGIDAE

K. Kettani

Number of species: **3**. Expected: 4

Faunistic knowledge of the family in Morocco: poor

Scathophaginae

### ***Norellia* Robineau-Desvoidy, 1830**

*Norellia tipularia* (Fabricius, 1794)

Ebejer et al. 2019, **Rif**, Dardara (730 m)

### ***Scathophaga* Meigen, 1803**

*Scathophaga stercoraria* (Linnaeus, 1758)

= *Scathophaga merdaria* Fabricius, 1794, in Séguy 1930a: 163

Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **Rif**, Tanger, **MA**, Meknès;  
 Mouna 1998; Koçak and Kemal 2010; **AP** (Azemour, Oued Yakem, Cap Can-  
 tin) – MISR

*Scathophaga lutaria* (Fabricius, 1794)

Ebejer et al. 2019, **Rif**, Talassemrane (1554 m), Jebel Lakraâ (1541 m)

## Oestroidea

## CALLIPHORIDAE

K. Kettani, K. Rognes

Number of species: **8**. Expected: 10

Faunistic knowledge of the family in Morocco: moderate

Calliphorinae

### ***Bellardia* Robineau-Desvoidy, 1863**

*Bellardia maroccana* (Villeneuve, 1941)

= *Onesia maroccana* Villeneuve, in Villeneuve 1932: 123

Villeneuve 1932b; Schumann 1974, **AP**, Aïn Diab (Casablanca); Verves  
 2004; Koçak and Kemal 2010

*Bellardia mascariensis* (Villeneuve, 1926)

Schumann 1974, **HA**, Marrakech; Verves 2004; Koçak and Kemal 2010

***Calliphora* Robineau-Desvoidy, 1863**

*Calliphora vicina* Robineau-Desvoidy, 1830

= *Calliphora erythrocephala* Meigen, in Séguy 1930a: 154

Séguy 1930a; Maurice 1947, **Rif**, Tanger; **AP** (Casablanca, Rabat), **MA** (Azrou, Ifrane) – MNHN, MISR

*Calliphora vomitoria* (Linnaeus, 1758)

Séguy 1930a; Maurice 1947, **Rif**, Tanger; Kurahashi 1971; Kurahashi and Magpayo 2000; Mouna 1998; **AP** (Rabat), **HA** – MISR, NHMD

Chrysomyinae

***Chrysomya* Robineau-Desvoidy, 1863**

*Chrysomya albiceps* (Wiedemann, 1819)

Maurice 1947; Séguy 1949a, **HA**, Alnif; Gonzales-Mora and Peris 1988; Mouna 1998; Verves 2003; Grabener 2017; Dawah et al. 2019; **EM** (Oujda) – MISR, **AP** (Rabat) – MNHN

Luciliinae

***Lucilia* Robineau-Desvoidy, 1863**

*Lucilia sericata* (Meigen, 1824)

Séguy 1930a, **Rif**, Tanger, **EM**, Berkane (1350–1400 m), **MA**, Meknès, Berrechid, **HA**, Tizi-n'Test, Goundafa (Jebel Imdress, 2000–2450 m); Séguy 1953a, **AP**, Rabat; Mouna 1998; Grabener 2017; **AP** (Dradek, Salé), **MA** (Azrou, Volubilis) – MISR, **AP** (Temara), **MA** (Ifrane) – MNHN

Melanomyinae

***Melinda* Robineau-Desvoidy, 1863**

*Melinda gentilis* (Robineau-Desvoidy, 1830)

**MA** (Ifrane) – MNHN

*Melinda viridicyanea* (Robineau-Desvoidy, 1830)

**MA** (Ifrane) – MNHN

**OESTRIDAE**

K. Kettani, T. Pape

Number of species: **10**. Expected: 12

Faunistic knowledge of the family in Morocco: moderate

## Gastrophilinae

***Gasterophilus* Leach, 1817**

*Gasterophilus flavipes* (Olivier, 1811)

Séguy 1928d, **EM**, Haute Moulouya; Séguy 1930a, **EM**, Itzer (Haute Moulouya); Mouna 1998; Li et al. 2019

*Gasterophilus haemorrhoidalis* (Linnaeus, 1758)

Maurice 1947; Mouna 1998; **AP** (Rabat) – MISR

*Gasterophilus intestinalis* (De Geer, 1776)

Séguy 1930a; Mouna 1998; Pandey et al. 1992

*Gasterophilus nasalis* (Linnaeus, 1758)

= *Gasterophilus veterinus* Clark, in Mouna 1998: 85

Maurice 1947; Pandey et al. 1992; Mouna 1998

*Gasterophilus pecorum* (Fabricius, 1794)

Séguy 1930a; Mouna 1998

## Hypodermatinae

***Hypoderma* Rondani, 1856**

*Hypoderma bovis* (Linnaeus, 1758)

Maurice 1947; Mouna 1998

*Hypoderma lineatum* (De Villers, 1789)

Dakkok et al. 1978, **MA**, Benslimane; Mouna 1998

## Oestrinae

***Cephalopina* Strand, 1928**

*Cephalopina titillator* (Clark, 1797)

= *Cephalopsis titillator* Clark, in Séguy 1930a: 139

Séguy 1930a, **Sub-SA** (camel breeding region); Mouna 1998

***Oestrus* Linnaeus, 1758**

*Oestrus ovis* Linnaeus, 1761

Séguy 1930a, **AP**, Rabat (sheep breeding area), **HA**, Marrakech, Bou Tazzert;

Maurice 1947; Mouna 1998 – MISR

***Rhinoestrus* Brauer, 1886**

*Rhinoestrus purpureus* (Brauer, 1858)

Maurice 1947; Mouna 1998

**POLLENIIDAE**

K. Kettani, K. Rognes

Number of species: **12**. Expected: 15

Faunistic knowledge of the family in Morocco: moderate

***Pollenia* Fabricius, 1794**

*Pollenia amentaria* (Scopoli, 1763)

Séguy 1949a, **AA**, Foug-el-Hassan; Séguy 1953a, **MA**, Sidi Allal Tazi; Mouna 1998; Pârvu et al. 2006, **SA**, Foug Zghouig; Popescu-Mirceni 2011; Gisondi et al. 2020

*Pollenia bicolor* Robineau-Desvoidy, 1830

Rognes 1991a, **HA**, Mikdane (Jebel Ayachi); Rognes 1991b, **HA**, Mikdane (Jebel Ayachi); Gisondi et al. 2020; **HA** (Mikdane) – NHMUK

*Pollenia contempta* Robineau-Desvoidy, 1863

Séguy 1930a, **MA**, Meknès, from M'Rirt to El Hajeb; Mouna 1998; Rognes 1992

*Pollenia haeretica* Séguy, 1928

Séguy 1934b, **AP**, Rabat; Rognes 2010; **AP** (40 km S Larache) – NHMD

*Pollenia ibalia* Séguy, 1930

= *Pollenia funebris* Villeneuve, in Villeneuve 1932: 284

= *Pollenia rungsi* Séguy, in Séguy 1953a: 88

Séguy 1930a, **EM**, Berkane, **MA**, Tlet n'Rhohr (in garden), Douar Ras el Ksar (900 m); Villeneuve 1932, **HA**, Marrakech; Séguy 1953a, **AP**, Rabat; Séguy 1941a, **HA**, cañon Tessaout (M'Goum, 3000–3200 m); Mouna 1998; Rognes 2010; Grabener 2017; Gisondi et al. 2020; **HA** (Asni) – NHMUK; **HA** (Ijoukak) – MNHN; **HA** (15 km SW Tazenakht) – NHMD

*Pollenia leclercqiana* (Lehrer, 1978)

Rognes 2010, 2011; Gisondi et al. 2020

*Pollenia luteovillosa* Rognes, 1987

Gisondi et al. 2020, **HA**, Mikdane (Jbel Ayachi)

*Pollenia ponti* Rognes, 1991

Rognes 1991b, **HA**, Jaffar river (Jebel Ayachi); Gisondi et al. 2020; **HA** (Jebel Ayachi) – NHMUK

*Pollenia rudis* (Fabricius, 1794)

Séguy 1930a, **EM**, Itzer (Haute Moulouya), Berkane (1350 m), **AP**, Casablanca, **MA**, Meknès, Aharmoumou (1100 m), Tlet n'Rhohr (in garden), Douar Ras el Ksar (1900 m), **HA**, Tizi-n'Test, Goundafa (Jebel Imdress, 2000–2450 m); Maurice 1947, **Rif**, Tanger; Rognes 1987, **AP**, Aïn Diab, Larache, **HA**, Asni, Jebel Ayachi, Mikdane; Grabener 2017; Gisondi et al. 2020; **AP** (Casablanca, Rabat), **MA** (Ifrane), **HA** (Haute Réghaya) – MNHN

*Pollenia ruficrura* Rondani, 1862

Rognes 2011; Gisondi et al. 2020

*Pollenia stigi* (Rognes, 1992)

Rognes 1992, **MA**, Ifrane, Azrou; Gisondi et al. 2020

*Pollenia vagabunda* (Meigen, 1826)

= *Pollenia hasei* Séguy, in Séguy 1928e: 370, Séguy 1930a: 147

Séguy 1928e; Séguy 1930a, **AP**, Casablanca; Mouna 1998; Rognes 1992; Gi-sondi et al. 2020

## **RHINIIDAE**

K. Kettani, K. Rognes

Number of species: **17**. Expected: ~20

Faunistic knowledge of the family in Morocco: moderate

### ***Cosmina* Robineau-Desvoidy, 1830**

*Cosmina claripennis* Robineau-Desvoidy, 1830

= *Cosmina bezziana* Villeneuve, in Villeneuve 1932a: 285

Villeneuve 1932a, **AP**, Mogador; Schumann 1986; Mouna 1998; Rognes 2002

*Cosmina maroccana* Séguy, 1949

Séguy 1949a, **AA**, Tenfecht, Vallée du Guir, **SA**, Guelmim; Séguy 1953a, **AA**, Tenfecht, Vallée du Guir, **SA**, Guelmim; Mouna 1998; Rognes 2002; Grabener 2017

*Cosmina punctulata* Robineau-Desvoidy, 1830

Séguy 1930a, **AA**, Tenfecht (Souss, 1000–1500 m)

*Cosmina viridis* (Townsend, 1917)

Ebejer et al. 2019, **AA**, 13 km E of Goulmima (1100 m)

### ***Rhinia* Robineau-Desvoidy, 1830**

*Rhinia apicalis* (Wiedemann, 1830)

Séguy 1930a, **AP**, Rabat, **MA**, Forêt Zaers; Zumpt 1956; Gonzales-Mora and Peris 1988; Mouna 1998; Verves 2003; Lehrer 2007

### ***Rhyncomya* Robineau-Desvoidy, 1830**

*Rhyncomya callopis* (Loew, 1856)<sup>58</sup>

Séguy 1941d, **AA**, Agadir; Séguy 1953a, **AP**, Sidi Ifni, **SA**, Tindouf, Amguilli Sguelma, Guelta des Zemmours; Schumann 1986; Mouna 1998; Rognes 1992; Dawah et al. 2019; El Hawagry and El-Azab 2019; **MA** (Tafilalt) – MISR

*Rhyncomya columbina* (Meigen, 1824)

Peris 1951, **Rif**, Tanger, **MA**, Ifrane; Schumann 1986; Gonzalez-Mora and Peris 1988

*Rhyncomya cyanescens* (Loew, 1844)

= *Rhyncomya hemisia* Séguy, in Séguy 1930a: 150

Séguy 1930a, **EM**, Berkane (1350–1400 m); Gonzales-Mora and Peris 1988; Rognes 2002, **MA**

*Rhyncomya desertica* (Peris, 1951)

Grabener 2017; El Hawagry and El-Azab 2019

<sup>58</sup> According to Rognes (2002: 38) *Rhyncomya callopis* records may refer to similar species with spines on the surstylus.



*Rhyncomya impavida* (Rossi, 1790)

Séguy 1930a, **Rif**, Tanger, **EM**, Berkane (1350–1400 m), **MA**, Forêt Tiffert (2000–2200 m); Schumann 1986; Mouna 1998

*Rhyncomya nigripes* (Séguy, 1933)

Grabener 2017; El Hawagry and El-Azab 2019

*Rhyncomya ursina* Séguy 1928

= *Rhynchomyia ursina* Séguy, in Séguy 1928b: 152

Séguy 1928b, **AP**, Atlantic coast of **SA**

*Rhyncomya yahavensis* Rognes, 2002

Grabener 2017; Ebejer et al. 2019, **AA**, 30 km W of Errachidia (1065 m)

*Rhyncomya zernyana* Villeneuve, 1926

Zumt 1956; Gonzales-Mora and Peris 1988

***Stomorbina* Rondani, 1861**

*Stomorbina lunata* (Fabricius, 1805)

Séguy 1930a; Peris 1951; Gonzales-Mora and Peris 1988; Mouna 1998; **AP** (Rabat) – MISR

***Villeneuveiella* Austen, 1914**

*Villeneuveiella icadion* (Séguy, 1953)

= *Rhynchoestrus icadion* Séguy, in Séguy 1953a: 89

Séguy 1953a, **SA**, Tindouf

*Villeneuveiella weissii* (Séguy, 1926)

= *Rhynchoestrus weissii* Séguy, in Séguy 1934b: 162

Séguy 1934b, **EM**, Berkane Zobzit (1100 m); Séguy 1953a, **SA**, Mader Bergat

## **RHINOPHORIDAE**

K. Kettani, T. Pape

Number of species: **8**. Expected: 15

Faunistic knowledge of the family in Morocco: poor

Rhinophorinae

***Melanophora* Meigen, 1803**

*Melanophora roralis* (Linnaeus, 1758)

Peris 1963, **Rif**, Tanger, **AP**, Larache; Mouna 1998

***Oplisa* Rondani, 1862**

*Oplisa aterrima* (Strobl, 1899)

= *Hoplisa aterrima* Strobl, in Peris 1963: 602

Peris 1963, **Rif**, Tanger, Zoco de Taleta, Ketama; Mouna 1998; Cerretti et al. 2020

***Paykullia* Robineau-Desvoidy, 1830**

*Paykullia carmela* (Peris, 1963)

= *Chaetostevenia carmela* Peris, in Peris 1963: 606

Peris 1963, **Rif**, Tanger; Cerretti et al. 2020; Pape and Thompson 2019 – MNCN

***Phyto Robineau-Desvoidy, 1830****Phyto atrior* (Villeneuve, 1941)= *Styloneuria atrior* Villeneuve, in Villeneuve 1941: 122Villeneuve 1941, **AP**, Rabat; Cerretti et al. 2020; Pape and Thompson 2019 – IRSNB*Phyto discrepans* Pandellé, 1896Cerretti et al. 2020, **Rif**, Chefchaouen (600 m), Ouezzane (300 m), **MA**, 40 km N Fès (1150 m) – NHMD*Phyto melanocephala* (Meigen, 1824)Ebejer et al. 2019, **Rif**, Barrage Smir (145 m); Cerretti et al. 2020***Stevenia Robineau-Desvoidy, 1830****Stevenia deceptor* (Loew, 1847)

Mulieri et al. 2010; Cerretti et al. 2020

***Tricogena Rondani, 1856****Tricogena rubricosa* (Meigen, 1824)= *Frauenfeldia rubricosa* Meigen, in Peris 1963: 603Peris 1963, **Rif**, Tanger; Mouna 1998; Cerretti et al. 2020 – NHMD**SARCOPHAGIDAE**

K. Kettani, D. Whitmore, T. Pape

Number of species: **66**. Expected: ~150

Faunistic knowledge of the family in Morocco: poor

**Miltogramminae*****Amobia Robineau-Desvoidy, 1830****Amobia signata* (Meigen, 1824)

Pape 1996; Verves 2019

***Apodacra Macquart, 1854****Apodacra africana* Rohdendorf, 1930Pape 1996, **Rif**, Tanger; Verves 2019***Craticulina Pandellé, 1895****Craticulina antachates* (Séguy, 1949)= *Apodacra antachates* Séguy, in Séguy 1949a: 160Séguy 1949a, **AA**, Zagora; Pape 1996, **AA**, Zagora; Mouna 1998*Craticulina tabaniformis* (Fabricius, 1805)Fabricius 1805, **AP**, Mogador; Séguy 1930a, **AP**, Mogador; Séguy 1935a, **AP**, beach of Rabat; Pape 1996; El Hawagry and El-Azab 2019; Verves 2019***Dolichotachina Villeneuve, 1913****Dolichotachina marginella* (Wiedemann, 1930)

Pape 1996; Grabener 2017; El Hawagry and El-Azab 2019; Verves 2019

***Macronychia* Rondani, 1859**

*Macronychia lemariei* Jacentkovský, 1941\*

AP

*Macronychia polyodon* (Meigen, 1824)

Pape 1996; Verves 2019

***Metopia* Meigen, 1803**

*Metopia argyrocephala* (Meigen, 1824)

= *Metopia leucocephala* (Rossi), in Mouna 1998: 86

Mouna 1998

***Miltogramma* Meigen, 1803**

*Miltogramma aurifrons* Dufour, 1850

Séguy 1930a, AP, Rabat, MA, Meknès; Pape 1996; Mouna 1998; El Hawagry and El-Azab 2019; Verves 2019

*Miltogramma germari* Meigen, 1824

Séguy 1930a, MA, Meknès, from M'Rirt to El Hajeb, Sidi Taibi; Pape 1996; Mouna 1998; El Hawagry and El-Azab 2019; Verves 2019

*Miltogramma maroccana* (Séguy, 1941)

= *Sphecatodes maroccana* Séguy, in Séguy 1941d: 22

Séguy 1941d, AA, Taroudant; Pape and Szpila 2012

*Miltogramma murina* Meigen, 1824

Pape 1996; Verves 2019

*Miltogramma oestracea* (Fallén, 1820)

Ebejer et al. 2019, Rif, Belwazen (M'Diq, 200 m), AP, Lower Loukous salt-marsh (2 m)

*Miltogramma rutilans* Meigen, 1824

Ebejer et al. 2019, Rif, Oued Mhajrate (Ben Karrich, 180 m)

*Miltogramma testaceifrons* (Roser, 1840)

= *Miltogramma pilitarsis* Rondani, in Séguy 1930a: 145; Mouna 1998: 86

Séguy 1930a, MA, Aïn Leuh; Pape 1996; Mouna 1998

***Protomiltogramma* Townsend, 1916**

*Protomiltogramma fasciata* (Meigen, 1824)

= *Setulia fasciata* (Meigen), in Mouna 1998: 86

Pape 1996; El Hawagry and El-Azab 2019; Verves 2019

***Senotainia* Macquart, 1846**

*Senotainia albifrons* (Rondani, 1859)

= *Sphecapata albifrons* Rondani, in Séguy 1930a: 145

Séguy 1930a

***Taxigramma* Macquart, 1850**

*Taxigramma heteroneura* (Meigen, 1830)

Pape 1996; El Hawagry and El-Azab 2019; Verves 2019

*Taxigramma pluriseta* (Pandellé, 1895)

Ebejer et al. 2019, Rif, Oued Mhajrate (Ben Karrich, 180 m), AP, Lower Loukous saltmarsh (2 m)

## Paramacronychiinae

***Nyctia* Robineau-Desvoidy, 1830***Nyctia halterata* (Panzer, 1798)= *Musca maura* Fabricius, in Fabricius 1805: 302Fabricius 1805, **Rif**, Tanger; Pape 1996, **Rif**, Tanger; Grabener 2017; El Hawagry and El-Azab 2019; Verves 2019*Nyctia lugubris* (Macquart, 1834)Ebejer et al. 2019, **AP**, Lower Loukous saltmarsh (2 m)***Sarcophila* Rondani, 1856***Sarcophila latifrons* (Fallén, 1817)<sup>59</sup>Séguy 1930a, **AP**, Maâmora, **HA**, Skoutana (Arround, 2000–2400 m); Mouna 1998***Wohlfahrtia* Brauer & Bergenstamm, 1889***Wohlfahrtia bella* (Macquart, 1839)= *Disjunctio bella* (Macquart), in Séguy 1930a: 144Séguy 1930a, **MA**, Aïn Leuh; Pape 1996; Mouna 1998; Hall et al. 2009; El Hawagry and El-Azab 2019; Verves 2019*Wohlfahrtia indigens* Villeneuve, 1928

Pape 1996; El Hawagry and El-Azab 2019; Verves 2019

*Wohlfahrtia magnifica* (Schiner, 1862)Delanoë 1922, **AP**, Doukkala; Séguy 1930a, **AP**, Maâmora; Séguy 1941a, **HA**, Tizi-n'Icheden (3000 m); Maurice 1947; Pape 1996; Mouna 1998; Lmimouni et al. 2004; Tliqui et al. 2007; Farkas et al. 2009, **Rif**, Al Hoceima, Taguidit, Tafensa, **EM**, Aghbal; Hall et al. 2009; El Hawagry and El-Azab 2019; Verves 2019*Wohlfahrtia nuba* (Wiedemann, 1830)

Pape 1996; El Hawagry and El-Azab 2019; Verves 2019

*Wohlfahrtia trina* (Wiedemann, 1830)

Pape 1996; Mouna 1998; El Hawagry and El-Azab 2019

## Sarcophaginae

***Blaesoxipha* Loew, 1861***Blaesoxipha (Blaesoxipha) lapidosa* Pape, 1994

Pape 1996; Grabener 2017; El Hawagry and El-Azab 2019

*Blaesoxipha (Blaesoxipha) litoralis* (Villeneuve, 1911)

Pape 1996; Verves 2019

*Blaesoxipha (Blaesoxipha) pygmaea* (Zetterstedt, 1844)

Pape 1996; Verves 2019

---

<sup>59</sup> The records of *Sarcophila latifrons* (Fallén) require verification. The genus *Sarcophila* is in need of revision and is likely much more diverse in the Mediterranean area than previously thought, so older records of *S. latifrons* from Morocco must be considered uncertain.

*Blaesoxipha* (*Servaisia*) *rossica* Villeneuve, 1912

Pape 1996; Verves 2019

***Ravinia* Robineau-Desvoidy, 1863**

*Ravinia pernix* (Harris, 1780)

= *Gesneriodes disjuncta* Séguy, in Séguy 1938: 43

= *Sarcophaga striata* (Fabricius), in Séguy 1941d: 22, Séguy 1949a: 159

Séguy 1938, **HA**, Skoutana; Séguy 1941d, **AA**, Taroudant; Séguy 1949a, **AA**, Akka; Pape 1996; Grabener 2017; El Hawagry and El-Azab 2019; Verves 2019

***Sarcophaga* Meigen, 1826**

*Sarcophaga* (*Bercaea*) *africa* (Wiedemann, 1824)

Pape 1996; Abkari et al. 1998; Verves 2003, 2019; Grabener 2017; El Hawagry and El-Azab 2019

*Sarcophaga* (*Helicophagella*) *maculata* Meigen, 1835

Pape 1996; El Hawagry and El-Azab 2019; Verves 2019

*Sarcophaga* (*Helicophagella*) *melanura* Meigen, 1826

El Hawagry and El-Azab 2019; Verves 2019

*Sarcophaga* (*Helicophagella*) *novercoides* Böttcher, 1913\*

**Rif, HA, AA**

*Sarcophaga* (*Heteronychia*) *balanina* Pandellé, 1896

Whitmore et al. 2013, **AP**, Larache; Fendane et al. 2018, **AP**, Diabat (Essaouira), Sidi Abed (El Jadida), Bir Retma (Casablanca); Verves 2019

*Sarcophaga* (*Heteronychia*) *cucullans* Pandellé, 1896

Séguy 1930a, **HA**, Maharidja; Mouna 1998

*Sarcophaga* (*Heteronychia*) *ferox* Villeneuve, 1908

Whitmore 2011, **Rif**, Ouezzane, **AP**, Larache, **MA**, Béni Mellal, Afourer, **AA**, Aoulouz; Whitmore et al. 2013; El Hawagry and El-Azab 2019; Verves 2019

*Sarcophaga* (*Heteronychia*) *filia* Rondani, 1860

Whitmore 2011, **MA**, Azrou, Timahdit; Whitmore et al. 2013; Verves 2019

*Sarcophaga* (*Heteronychia*) *javita* (Peris, González-Mora & Mingo, 1998)\*

**AA**

*Sarcophaga* (*Heteronychia*) *longestylata* Strobl, 1906

Pape 1996; Whitmore et al. 2013, **MA**, Ifrane, Azrou; Fendane et al. 2018, **AP**, Sidi Abed (El Jadida)

*Sarcophaga* (*Heteronychia*) *minima* Rondani, 1862

Whitmore 2011, **MA**, Azrou, Ifrane, Afourer (Béni Mellal), **HA**, Ijoukak, Ouirgane (Marrakech), **AA**, Oulma (Agadir); Whitmore et al. 2013; Fendane et al. 2018, **AP**, Smimou (Essaouira), El Akarta (Oualidia); Verves 2019

*Sarcophaga* (*Heteronychia*) *obvia* (Povolný, 2004)

Whitmore et al. 2013, **MA**, Afourer (Béni Mellal), **HA**, Ait Lekak (Marrakech), S Asni (Imlil, Marrakech), Tagadirt, Quirgane, **AA**, Oulma Ort (Agadir)

*Sarcophaga* (*Heteronychia*) *pandellei* (Rohdendorf, 1937)

Séguy 1930a, **MA**, Tizi-s'Tkrine; Mouna 1998; Whitmore et al. 2013, **MA**, Azrou, Ifrane, Afourer (Béni Mellal)

- Sarcophaga (Heteronychia) tangerensis* Whitmore, 2011  
 = *Heteronychia (Heteronychia) amica* Peris, González-Mora & Mingo, in Peris et al. 1998: 173  
 Peris et al. 1998, **Rif**, Tanger; Whitmore 2011, **Rif**, Tanger
- Sarcophaga (Heteronychia) villeneuveana* (Enderlein, 1928)  
 = *Pierretia (Bercaea) maroccana* Rohdendorf, in Rohdendorf 1937: 325  
 = *Sarcophaga (Heteronychia) penicillata* Villeneuve, in Coupland and Barker 2004: 113 (misidentification)  
 Rohdendorf 1937, **MA**, Aïn Defali; Coupland and Barker 2004; Whitmore 2009; Fendane et al. 2018, **AP**, Diabat (Essaouira), Ghabat Tansift (Souiria), Lalla Fatna (Safi), Laatoutate (Safi), El Akarta (Oualidia), Sidi Abed (El Jadida), Bir Retma (Casablanca); Verves 2019
- Sarcophaga (Heteronychia) uncicurva* Pandellé, 1896  
 Fendane et al. 2018, **AP**, Smimou (Essaouira), Diabat (Essaouira), Lalla Fatna (Safi), Laatoutate (Safi), Bir Retma (Casablanca)
- Sarcophaga (Liopygia) argyrostoma* (Robineau-Desvoidy, 1830)\*  
**HA**
- Sarcophaga (Liopygia) crassipalpis* Macquart, 1839  
 Pape 1996; Grabener 2017; El Hawagry and El-Azab 2019; Verves 2019
- Sarcophaga (Liosarcophaga) aegyptica* Salem, 1935  
 Fendane et al. 2018, **AP**, Sidi Abed (El Jadida)
- Sarcophaga (Liosarcophaga) dux* Thomson, 1869\*  
**SA**
- Sarcophaga (Liosarcophaga) jacobsoni* (Rohdendorf, 1937)  
 Pape 1996; El Hawagry and El-Azab 2019; Verves 2019
- Sarcophaga (Liosarcophaga) marshalli* Parker, 1923  
 Fendane et al. 2018, **AP**, Smimou (Essaouira), Diabat (Essaouira), Ghabat Tansift (Souiria), Laatoutate (Safi); El Hawagry and El-Azab 2019; Verves 2019
- Sarcophaga (Liosarcophaga) pharaonis* Rohdendorf, 1934  
 Carles-Tolrá 2002; El Hawagry and El-Azab 2019; Verves 2019
- Sarcophaga (Liosarcophaga) tibialis* Macquart, 1851  
 = *Sarcophaga beckeri* Villeneuve, in Maurice 1947: 57; Mouna 1998: 86  
 Maurice 1947; Mouna 1998; Fendane et al. 2018, **AP**, Laatoutate (Safi)
- Sarcophaga (Liosarcophaga) teretirostris* Pandellé, 1896  
 = *Parasarcophaga decellei* Lehrer, in Lehrer 1976: 3  
 Lehrer 1976, **MA**, Kandar, Imouzzar; Pape 1996, **MA**, Kandar, Imouzzar; Verves 2019
- Sarcophaga (Liosarcophaga) tuberosa* Pandellé, 1896<sup>60</sup>  
 Mouna 1998

<sup>60</sup> This record requires verification, as *Sarcophaga (Liosarcophaga) tuberosa* has often been confused with other species in the literature.

*Sarcophaga (Myorhina) nigriventris* Meigen, 1826

Pape 1996; Mouna 1998; Fendane et al. 2018, **AP**, Ghabat Tansift (Souiria), Laatoutate (Safi), El Akarta (Oualidia), Sidi Abed (El Jadida), Bir Retma (Casablanca); Verves 2019

*Sarcophaga (Myorhina) soror* Rondani, 1860

Fendane et al. 2018, **AP**, Sidi Abed (El Jadida)

*Sarcophaga (Pandelleana) protuberans* Pandellé, 1896

Séguy 1949a, **AA**, Agadir Tissint, **SA**, Guelmim, Foum-el-Hassan, Tata; Mouna 1998

*Sarcophaga (Parasarcophaga) hirtipes* Wiedemann, 1830

Pape 1996; Verves 2003; El Hawagry and El-Azab 2019; Verves 2019

*Sarcophaga (Sarcophaga) lehmanni* Müller, 1922

Pape 1996; Cassar et al. 2005, **Rif**, Smir lagoon; El Hawagry and El-Azab 2019; Verves 2019

*Sarcophaga (Sarcophaga) marcelleclercqi* Lehrer, 1975

Lehrer 1975; Pape 1996, **MA**, Azrou; Verves 2019

*Sarcophaga (Thyrsocnema) belgiana* (Lehrer, 1976)

Lehrer 1976; Pape 1996

*Sarcophaga (Thyrsocnema)* sp.<sup>61</sup>

Ebejer et al. 2019 [as *incisilobata*, misidentification], **Rif**, Tahaddart (8 m)

**New records for Morocco***Macronychia lemariei* Jacentkovský, 1941

Atlantic plain: Rabat, Forêt de Maâmora, 100 m, 25–26.iv.1989, 1♂1♀, Zoological Museum of Copenhagen Expedition (NMHD).

*Sarcophaga (Helicophagella) novercoides* Böttcher, 1913

Rif: Ouezzane, 300 m, 21–22.iv.1989, 1♂, Zoological Museum of Copenhagen Expedition (NMHD).

High Atlas: Marrakech, Ouirgane, 1000 m, 1–9.iv.1997 Mai, 1♂, C. Kassebeer leg. (NMHD).

Anti Atlas: 30 km NW Aoulouz, 1400 m, 10.iv.1989, 1♂, Zoological Museum of Copenhagen Expedition (NMHD).

*Sarcophaga (Heteronychia) javita* (Peris, González-Mora & Mingo, 1998)

Anti Atlas: Agadir, S Oulma, 30°31'N, 9°09'W, 200 m, 21.iv.1997, 1♂, C. Kassebeer leg. (NMHD).

*Sarcophaga (Liopygia) argyrostoma* (Robineau-Desvoidy, 1830)

High Atlas: Marrakech, Tagadirt, Ouirgane, 1000 m, 1.x.1994, 1♀, C. Kassebeer leg. (NMHD).

61 After checking photographs of the male terminalia of the specimen reported by Ebejer et al. (2019) as *Sarcophaga (Thyrsocnema) incisilobata* Pandellé, 1896, we consider that it most likely represents an undescribed species.

*Sarcophaga (Liosarcophaga) dux* Thomson, 1869

Sahara: Erfoud, Rissani area, 900 m, 13–14.iv.1989, Zoological Museum of Copenhagen Expedition (NHMD).

## TACHINIDAE

K. Kettani, P. Cerretti, H.-P. Tschorsnig

Number of species: **147**. Expected: 200

Faunistic knowledge of the family in Morocco: poor

Dexiinae

Dexiini

### ***Billaea* Robineau-Desvoidy, 1830**

*Billaea lata* (Macquart, 1849)

= *Rhynchodineria lata* Macquart, in Séguy 1930a: 143

Séguy 1930a, **MA**, Aharmoumou, Camp Boulhout, Sidi Bettache, Aïn Sferguila, Meknès; Mouna 1998; **AP** (Mehdia) – MISR; **AP** (Essaouira, 4 km E Ounara), **HA** (Marrakech, Lakhdar, N Demnate) – PCPT

### ***Estheria* Robineau-Desvoidy, 1830**

*Estheria atripes* Villeneuve, 1920

Cerretti and Tschorsnig 2012

*Estheria iberica* Tschorsnig, 2003\*

**MA**

*Estheria nigripes* (Villeneuve, 1920)

Cerretti and Tschorsnig 2012; **MA** (Béni Mellal, El Ksiba), **AA** (Agadir, Oulma) – PCPT

*Estheria picta* (Meigen, 1826)<sup>62</sup>

Moutia 1940

### ***Zeuxia* Meigen, 1826**

*Zeuxia aberrans* (Loew, 1847)

= *Zeuxia nigripes* Meigen, in Séguy 1941d: 23

Brémond 1938; Séguy 1941d, **AP**, Rabat, **MA**, Volubilis, **AA**, Agadir; IOBC-List 11; Mesnil 1980; Mouna 1998; Tschorsnig 2017; **AA** (10 km NW Aït-Baha) – PCPT

Dufouriini

### ***Dufouria* Robineau-Desvoidy, 1830**

*Dufouria nigrata* (Fallén, 1810)

Ebejer et al. 2019, **AP**, Larache (Lower Loukous saltmarsh, 2 m); **MA** (Ouzoud) – PCPT

<sup>62</sup> *Estheria picta*: the identity of this species is not confirmed; see note in Tschorsnig 2017.



Voriini

***Athrycia* Robineau-Desvoidy, 1830**

*Athrycia trepida* (Meigen, 1824)\*

MA

***Cyrtophloeoba* Rondani, 1856**

*Cyrtophloeoba ruricola* (Meigen, 1824)

= *Plagia ruricola* Meigen, in Séguy 1935a: 120, in Rungs 1940: 14

Séguy 1935a, MA, Ifrane; Rungs 1940, MA (Cédraie); Mouna 1998; HA (Tizi-n'Test), AA (Taroudant) – PCPT

***Eriothrix* Meigen, 1830**

*Eriothrix apennina* (Rondani, 1862)

Herting and Dely-Draskovits 1993; Koçak and Kemal 2010

*Eriothrix rufomaculata* (De Geer, 1776)\*

MA, HA

***Hypovoria* Villeneuve, 1913**

*Hypovoria hilaris* Villeneuve, 1912

Séguy 1935a, AP, Oued Beth; Séguy 1953a, AP, Sehoul; Mouna 1998; AA (10 km SE Aït-Ourir) – PCPT

*Hypovoria pilibasis* (Villeneuve, 1922)

Zeegers 2010; HA (Tizi-n'Test), AA (Taroudant) – PCPT

***Kirbya* Robineau-Desvoidy, 1830**

*Kirbya moerens* (Meigen, 1830)\*

MA

***Nanoplusia* Villeneuve, 1929**

*Nanoplusia sinaica* (Villeneuve in Hermann & Villeneuve 1909)

Cerretti 2009; Grabener 2017; HA (Marrakech, 8 km N Ouirgane), AA (40 km SW Ouarzazate, 10 km SW Tazenakht, NE Agadir, 12 km W Oulma) – PCPT

***Periscepsia* Gistel, 1848**

*Periscepsia meyeri* (Villeneuve, 1930)

Ebejer et al. 2019, Rif, Adrou (PNPB, 556 m)

***Stomina* Robineau-Desvoidy, 1830**

*Stomina caliendrata* (Rondani, 1862)

= *Morphomyia caliendrata* Rondani, in Séguy 1930a: 143

Séguy 1930a, MA, from M'Rirt to Hajeb, HA, Kasba Taguendaft (Gounfada); Mouna 1998; HA (Massif Toubkal) – PCPT

***Thelaira* Robineau-Desvoidy, 1830**

*Thelaira haematodes* (Meigen, 1824)<sup>63</sup>

63 The following species *Thelaira haematodes*, *Carcelia iliaca*, *Drino gilva*, and *Drino imberbis*, have been considered as Moroccan on the basis of specimens represented in the collection of MISR (Rabat, Morocco) or cited in some old Moroccan references: However, the identifications are not yet confirmed.

= *Phoenicella haematodes* Meigen: Séguy 1930a: 142

Séguy 1930a, **HA**, Arround; Mouna 1998

***Uclesia* Girschner, 1901**

*Uclesia fumipennis* Girschner, 1901

Séguy 1934b; Herting and Dely-Draskovits 1993; Mouna 1998; **HA** (Mar-rakech) – MISR

***Voria* Robineau-Desvoidy, 1830**

*Voria ruralis* (Fallén, 1810)

Jourdan 1935c

***Wagneria* Robineau-Desvoidy, 1830**

*Wagneria dilatata* Kugler, 1977

Kugler 1977

Exoristinae

Acemyini

***Ceracia* Rondani, 1865**

*Ceracia mucronifera* Rondani, 1865

= *Myothyria benoisti* (Mesnil), in Mesnil 1959: 20

Mesnil 1959, **MA**, Forêt Maâmora near Tiflet; Herting and Dely-Draskovits 1993; Cerretti and Ziegler 2004

Blondeliini

***Compsilura* Bouché, 1834**

*Compsilura concinnata* (Meigen, 1824)

IOBC-list 1 (1956); Hérard and Fraval 1980

***Istocheta* Rondani, 1859**

*Istocheta cinerea* (Macquart, 1850)

Herting 1960

*Istocheta longicornis* (Fallén, 1810)

= *Latigena longicornis* Fallén, in Séguy 1953a: 91

Séguy 1953a, **AP**, Forêt Zaers

***Lomachantha* Rondani, 1859**

*Lomachantha parra* Rondani, 1859

Efetov and Tarmann 1999

***Robinaldia* Herting, 1983**

*Robinaldia angustata* (Villeneuve, 1933)

Herting and Dely-Draskovits 1993; Tschorsnig and Herting 1994

***Zaira* Robineau-Desvoidy, 1830**

*Zaira cinerea* (Fallén, 1820)

Ebejer et al. 2019, **Rif**, Aïn Jdioui (Tahaddart, 8 m)

## Eryciini

***Alsomyia* Brauer & Bergenstamm, 1891***Alsomyia olfaciens* (Pandellé, 1896)

IOBC-List 12 (1993)

***Amphicestonia* Villeneuve, 1939***Amphicestonia dispar* (Villeneuve, 1922)Herting and Dely-Draskovits 1993; Cerretti and Ziegler 2004; **MA** (Ifrane)  
– PCPT***Aplomyia* Robineau-Desvoidy, 1830***Aplomyia confinis* (Fallén, 1820)Ebejer et al. 2019, **Rif**, Dardara (484 m)***Carcelia* Robineau-Desvoidy, 1830***Carcelia dilaticornis* Mesnil, 1950

Mesnil 1950

*Carcelia iliaca* (Ratzeburg, 1840)<sup>63</sup>

Mouna 1998

*Carcelia lucorum* (Meigen, 1824)\***HA*****Drino* Robineau-Desvoidy, 1863***Drino atropivora* (Robineau-Desvoidy, 1830)= *Sturmia atropivora* Robineau-Desvoidy, in Bléton and Fieuzet 1939: 64De Lépiney and Mimeur 1932; Bléton and Fieuzet 1939, **MA**, Fès; Mouna  
1998; Tschorsnig 2017; **AP** (Rabat), **MA** (Bel Lakssiri) – MISR*Drino galii* (Brauer & Bergenstamm, 1891)\***HA, AA***Drino gilva* (Hartig, 1838)<sup>63</sup>= *Sturmia gilva* Hartig

Mouna 1998 – MISR (no locality given)

*Drino imberbis* (Wiedemann, 1830)<sup>63</sup>

Rungs 1954; Grabener 2017

*Drino inconspicua* (Meigen, 1830)Séguy 1935a, **AP**, Sehoul (Rabat); Bléton and Fieuzet 1939, **MA**, Dayat  
Achleff; Mouna 1998; **MA** (Meknès, Béni Mellal) – MISR*Drino maroccana* Mesnil, 1951De Lépiney 1930; De Lépiney and Mimeur 1932 (probably misidentified as  
*Sturmia inconspicua*); Mesnil 1951; Herting and Dely-Draskovits 1993; Zie-  
gler 2011*Drino triplaca* Herting, 1979Herting 1979, **AP**, Rabat*Drino vicina* (Zetterstedt, 1849)= *Sturmia vicina* Zetterstedt, 1849De Lépiney and Mimeur 1932; Bouclier-Maurin 1923; **AP** (Rabat) – MISR

***Gymnophryxe* Villeneuve, 1922***Gymnophryxe carthaginiensis* (Bischof, 1900)

Mesnil 1956

***Nilea* Robineau-Desvoidy, 1863***Nilea innoxia* Robineau-Desvoidy, 1863

Bléton and Fieuzet 1939

***Phryxe* Robineau-Desvoidy, 1830***Phryxe caudata* (Rondani, 1859)

Biliotti 1956; El Yousfi 1994; IOBC-list 11 (1989)

*Phryxe setifacies* (Villeneuve, 1910)

IOBC-list 11 (1989); IOBC-list 12 (1993)

*Phryxe vulgaris* (Fallén, 1810)Séguy 1953a, **MA**, Tamrabta (1700 m) – PCPT (**HA**, Marrakech, Imlil, S Asni)***Ptesiomyia* Brauer & Bergenstamm, 1893***Ptesiomyia microstoma* Brauer & Bergenstamm, 1893Séguy 1953a, **AP**, Rabat; **EM** (Mte des Béni Snassen, Taforalt), **MA** (Béni Mellal, Bin-el-Ouidane; Meknès, Ifrane (NPI)), **HA** (Marrakech, Oukaïmeden) – PCPT***Senometopia* Macquart, 1834***Senometopia separata* (Rondani, 1859)

Hérard and Fraval 1980

***Tryphera* Meigen, 1838***Tryphera lugubris* (Meigen, 1824)

IOBC-List 1 (1956)

## Ethillini

***Atylomyia* Brauer, 1898***Atylomyia albifrons* Villeneuve, 1911= *Atylomyia rungsi* Mesnil, in Mesnil 1962: 778Mesnil 1962, **AA** (near Agadir), Aït Melloul; Herting and Dely-Draskovits 1993

## Exoristini

***Bessa* Robineau-Desvoidy, 1863***Bessa parallela* (Meigen, 1824)Séguy 1935a (probably misidentified as *Bessa selecta*); Tschorsnig 2017***Chetogena* Rondani, 1856***Chetogena filipalpis* Rondani, 1859Ebejer et al. 2019, **Rif**, Aïn Jdioui (Tahaddart, 8 m); **MA** (Fès, Sidi Harazem, Ifrane, Forêt de Cèdres) – PCPT*Chetogena mageritensis* (Villeneuve & Mesnil, 1936)

Herting and Dely-Draskovits 1993

*Chetogena media* Rondani, 1859\*

**MA**

*Chetogena nigrofasciata* (Strobl, 1902)

= *Chetogena repanda* (Mesnil, 1939), in Herting and Dely-Draskovits 1993 (type locality: Skel): 17

Gheibi et al. 2010

*Chetogena obliquata* (Fallén, 1810)

De Lépiney and Mimeur 1932; Herting 1960; IOBC-list 12 (1993); **HA** (Marrakech, Oukaimeden) – PCPT

***Exorista* Meigen, 1803**

*Exorista deligata* Pandellé, 1896

Mesnil 1946, **AP**, Sidi Taibi near Kénitra; Herting and Dely-Draskovits 1993; Cerretti and Ziegler 2004; Gheibi et al. 2010

*Exorista grandis* (Zetterstedt, 1844)

Ebejer et al. 2019, **Rif**, Dardara (484 m)

*Exorista larvarum* (Linnaeus, 1758)

Mouna 1998

*Exorista nova* (Rondani, 1859)

Tschorsnig 2017

*Exorista rendina* (Herting, 1975)\*

**AA**

*Exorista segregata* (Rondani, 1859)

Mouna 1998; **AA** (Agadir, Oulma) – PCPT

Goniini

***Anurophylla* Villeneuve, 1938**

*Anurophylla aprica* (Villeneuve, 1912)\*

**MA**

***Baumhaueria* Meigen, 1838**

*Baumhaueria goniaeformis* (Meigen, 1824)

De Lépiney and Mimeur 1932; **AP** (Maâmora) – MISR; **HA** (Marrakech, Oukaimeden) – PCPT

***Blepharipa* Rondani, 1856**

*Blepharipa pratensis* (Meigen, 1824)\*

**HA**

***Ceratochaetops* Mesnil, 1970**

*Ceratochaetops triseta* (Villeneuve, 1922)

= *Ceratochoeta triseta* Villeneuve, in Rungs 1940: 15

Rungs 1940, **MA** (Cédraie); Mouna 1998; **MA** (Khénifra, El-Herri, Ifrane (NPI), Meknès), **HA** (Marrakech, 8 km N Ouirgane) – PCPT

***Ceromasia* Rondani, 1856***Ceromasia rubrifrons* (Macquart, 1834)IOBC-list 11 (1989); IOBC-list 12 (1993); **HA** (Marrakech, Ouirgane, Tagadirt, S Asni) – PCPT***Clemelis* Robineau-Desvoidy, 1863***Clemelis pullata* (Meigen, 1824)

IOBC-list 13 (1997)

***Gaedia* Meigen, 1838***Gaedia connexa* Meigen, 1824Séguy 1953a, **EM**, Berkane***Gonia* Meigen, 1803***Gonia aterrima* Tschorsnig, 1991

Tschorsnig 1991

*Gonia atra* Meigen, 1826Séguy 1930a, **MA**, Tizi-n'Bouftene, between Azrou and Ras el Ma, Forêt Azrou, **HA**, Arround (Skoutana), Jebel Likount, Asni; Mouna 1998; Grabener 2017; **MA** (Tighassaline, El-Herri, Aïn Leuh-Tagounit, Meknès, Ifrane (NPI)), **HA** (40 km SW Ouarzazate, Marrakech, Ouirgane, Lakhdar, N Demnate, Oukaïmeden), **AA** (Agadir, Oulma) – PCPT*Gonia bimaculata* Wiedemann, 1819= *Gonia cilipeda* Rondani, in Séguy 1953a: 91Séguy 1930a, **AP**, Rabat, **MA**, Tizi-s'Tkrine, Tizi-n'Bouftene, between Azrou and Ras el Ma, Forêt Azrou, Berkane, **HA**, Arround (Skoutana), Jebel Likount, Asni, Ouaouzert (Glaoua); Séguy 1953a, **AP**, Temara; **AP** (Rabat) – MISR; **HA** (S Asni Ouirgane, Marrakech), **AA** (80 km N Taroudant, Aoulouz), **AA** (15 km NW Zagora) – PCPT*Gonia capitata* (De Geer, 1776)Mouna 1998; **MA** (Ifrane) – MISR*Gonia maculipennis* Egger, 1862\***MA***Gonia ornata* Meigen, 1826Séguy 1953a, **AP**, Rabat, **MA**, Ifrane, **SA**, Kelaâ M'Goum; **MA** (Ifrane, Forêt de Cèdres), **HA** (Oukaïmeden (2600 m), Marrakech) – PCPT*Gonia vacua* Meigen, 1826\***MA*****Pales* Robineau-Desvoidy, 1830***Pales pavidata* (Meigen, 1824)IOBC-list 1 (1956); Cerretti 2005; **MA** (Fès, Sidi Harazem) – PCPT***Platymya* Robineau-Desvoidy, 1830***Platymya antennata* (Brauer & Bergenstamm, 1891)

Efetov and Tarmann 1999

***Pseudogonia* Brauer and von Bergenstamm, 1889***Pseudogonia rufifrons* (Wiedemann, 1830)De Lépiney and Mimeur 1932; IOBC-list 1 (1956); Mouna 1998; Tschorsnig 2017; Grabener 2017; **AA** (S Tafraoute, Aït Mansur, Agadir, Oulma) – PCPT***Sturmia* Robineau-Desvoidy, 1830***Sturmia bella* (Meigen, 1824)

Stefanescu et al. 2012; Tschorsnig 2017

## Winthemiini

***Nemorilla* Rondani, 1856***Nemorilla maculosa* (Meigen, 1824)Kozlovsky and Rungs 1933; Brémond and Rungs 1938 [as *N. floralis*; probable misidentification]; IOBC list 1 (1956); Mouna 1998; **EM** (Oujda, Col de Jerada) – PCPT

## Phasiinae

## Cylindromyiini

***Besseria* Robineau-Desvoidy, 1830***Besseria lateritia* (Meigen, 1824)\***HA*****Cylindromyia* Meigen, 1803***Cylindromyia bicolor* (Olivier, 1812)Séguy 1930a, **AP**, Rabat; Mouna 1998*Cylindromyia brassicaria* (Fabricius, 1775)Séguy 1930a, **EM**, Soufouloud, **MA**, Aharmoumou, Berrechid, Meknès, Sidi Bettache, Berkane, **HA**, Tenfecht, Ouaounzert, Marrakech, Asni; Séguy 1935a, **AP**, Gharb; Séguy 1941a, **HA**, Jebel Ayachi; Séguy 1949, **SA**, Guelmim; Dupuis 1963; Mouna 1998; **MA** (Sefrou) – MISR; **AP** (Essaouira, 4 km E Ounara), **HA** (10 km W Chichaoua, Oukaïmeden), **AA** (140 km E Agadir, Aoulouz, Tizi-n'Tichka) – PCPT*Cylindromyia intermedia* Meigen, 1824Becker and Stein 1913, **Rif**, Tanger; **HA** (Ouirgane, Imlil, Tizi-n'Test), **AA** (10 km SE Ouarzazate (oasis), Taroudant) – PCPT*Cylindromyia maroccana* Tschorsnig, 1997Tschorsnig 1997, **HA**, Ouirgane, Tagadirt (1000 m)*Cylindromyia pilipes* Loew, 1844Becker and Stein 1913, **Rif**, Tanger; Herting and Dely-Draskovits 1993; Gilasian et al. 2013***Phania* Meigen, 1824***Phania albisquama* (Villeneuve, 1924)\***MA**

## Gymnosomatini

***Clytiomya* Rondani, 1861***Clytiomya continua* (Panzer, 1798)= *Clytiomyia dalmatica* Robineau-Desvoidy, in Séguy 1935a: 119Séguy 1935a, **AP**, Gharb; Mouna 1998; **AP** (Rabat) – MISR*Clytiomya sola* (Rondani, 1861)Séguy 1935a; Dupuis 1963; **MA** (Khénifra, Tighassaline) – PCPT***Ectophasia* Townsend, 1912***Ectophasia crassipennis* (Fabricius, 1794)= *Phasia crassipennis* Fabricius, in Séguy 1930a: 141Séguy 1930a, **MA**, Aïn Leuh; Mouna 1998***Eliozeta* Rondani, 1856***Eliozeta helluo* (Fabricius, 1805)= *Clytiomyia helluo* Fabricius, in Séguy 1935: 119Séguy 1930a, **MA**, Meknès (Aïn Sferguila); Jourdan 1935; Séguy 1935a, **AP**,

Gharb; Thompson 1950; Dupuis 1963; Mouna 1998; Tschorsnig 2017

***Gymnosoma* Meigen, 1803***Gymnosoma carpocoridis* Dupuis, 1961

Dupuis 1963; Herting and Dely-Draskovits 1993

*Gymnosoma clavatum* (Rohdendorf, 1947)Dupuis 1963; Grabener 2017; **MA** (Meknès, Ifrane (NPI)), **AA** (140 km E Agadir, Aoulouz), **AA** (80 km S Zagora, Oued Draa, Mhamid) – PCPT*Gymnosoma dolycoridis* Dupuis, 1960Dupuis 1963; **MA** (Fès, Sidi Harazem) – PCPT*Gymnosoma rotundatum* Linnaeus, 1758<sup>64</sup>Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **Rif**, Tanger, **AP**, Mogador, **MA**, Tizi-s'Tkrine, Sidi Bettache, Moulay Aïn Djemine, **HA**, Asni; Séguy 1934b; Séguy 1935a; Thompson 1950; Mouna 1998; **AP** (Mogador), **MA** (Maghrawa) – MISR; **MA** (Meknès, Ifrane (NPI)) – PCPT*Gymnosoma rungsi* (Mesnil, 1952)= *Rhodogyne rungsi* (Mesnil), in Mesnil 1952: 151Mesnil 1952, **AP**, Rabat; Dupuis 1963; Herting and Dely-Draskovits 1993

## Leucostomatini

***Clairvillia* Robineau-Desvoidy, 1830***Clairvillia biguttata* (Meigen, 1824)\***HA**

<sup>64</sup> *Gymnosoma rotundatum* older identifications of *G. rotundatum* are not reliable. Possibly they were the true *G. rotundatum*, but it is more likely that other species of the genus *Gymnosoma* were concerned.



***Dionomelia* Kugler, 1978***Dionomelia hennigi* Kugler, 1978\***SA*****Leucostoma* Meigen, 1803***Leucostoma abbreviatum* Herting, 1971

Ziegler 2012

*Leucostoma crassum* Kugler, 1966\***HA***Leucostoma obsidianum* (Wiedemann, 1830)Ebejer et al. 2019, **AA**, Ziz river (10 km S of Errachidia, 1008 m)*Leucostoma tetraptera* (Meigen, 1824)Dupuis 1953; Ebejer et al. 2019, **Rif**, Barrage Smir (27 m)***Weberia* Robineau-Desvoidy, 1830***Weberia digramma* (Meigen, 1824)\***AA**

Phasiini

***Elomya* Robineau-Desvoidy, 1830***Elomya lateralis* (Meigen, 1824)Séguy 1930a, **AP**, From Zarjoulea to Larache, **MA**, Berkane; Dupuis 1952; Dupuis 1963; Herting and Dely-Draskovits 1993; Mouna 1998; Cerretti and Ziegler 2004; **MA** (Khénifra, Tighassaline, Meknès, Ifrane (NPI)), **HA** (Marakech, Ouirgane) – PCPT***Phasia* Latreille, 1804***Phasia mesnili* (Draber-Monko, 1965)Sun and Marshall 2003, **HA**; **AP** (10 km E Essaouira), **AA** (S Taфраoute, Aït Mansur, S Aït-Baha) – PCPT*Phasia obesa* (Fabricius, 1798)Sun and Marshall 2003, **HA**, Asni*Phasia pusilla* Meigen, 1824Dupuis 1963; Sun and Marshall 2003, **MA***Phasia subcoleoptrata* (Linnaeus, 1767)Dupuis 1963; Herting and Dely-Draskovits 1993; Sun and Marshall 2003, **MA**; Cerretti and Ziegler 2004*Phasia venturii* (Draber-Monko, 1965)Sun and Marshall 2003, **HA**, Asni; **AP** (Essaouira, 4 km E Ounara), **AA** (11 km NW Taliouine, 10 km SE Aït-Ourir) – PCPT

Trichopodini

***Trichopoda* Berthold, 1827***Trichopoda pennipes* (Fabricius, 1794)Ebejer et al. 2019, **Rif**, Tahaddart (8 m)

## Xystini

***Xysta* Meigen, 1824***Xysta holosericea* (Fabricius, 1805)\***HA**

## Tachininae

## Graphogastrini

***Graphogaster* Rondani, 1868***Graphogaster vestita* Rondani, 1868\***MA*****Phytomyptera* Rondani, 1845***Phytomyptera nigrina* (Meigen, 1824)= *Phytomyptera nitidiventr* Rondani, in Bléton and Fieuzet 1939: 64  
Bléton and Fieuzet 1939; Mouna 1998

## Leskiini

***Aphria* Robineau-Desvoidy, 1830***Aphria longirostris* (Meigen, 1824)Ebejer et al. 2019, **Rif**, Jnane Niche (46 m)***Bithia* Robineau-Desvoidy, 1863***Bithia demotica* (Egger, 1861)

Tschorsnig and Bläsius 2001; IOBC-list 14 (2005); Tschorsnig 2017

*Bithia modesta* (Meigen, 1824)

Tschorsnig and Bläsius 2001; Tschorsnig 2017

## Linnaemyini + Ernestiini

***Gymnochaeta* Robineau-Desvoidy, 1830***Gymnochaeta viridis* Fallén, 1810Séguy 1930a, **HA**, Arround (Skoutana); Mouna 1998***Linnaemya* Robineau-Desvoidy, 1830***Linnaemya soror* Zimin, 1954\***MA, HA, AA*****Loewia* Egger, 1856***Loewia setibarba* Egger, 1856Becker and Stein 1913, **Rif**, Tanger***Panzeria* Robineau-Desvoidy, 1830***Panzeria castellana* (Strobl, 1906)\***HA***Panzeria nemorum* (Meigen, 1824)\***MA**

***Zophomyia* Macquart, 1835***Zophomyia temula* (Scopoli, 1763)Séguy 1930a, **AP**, Casablanca, **MA**, Meknès; Mouna 1998; **MA** (Khénifra, Tighassaline, Meknès, Ifrane (NPI)) – PCPT

## Macquartiini

***Macquartia* Robineau-Desvoidy, 1830***Macquartia chalconota* (Meigen, 1824)Ebejer et al. 2019, **Rif**, Smir lagoon; **HA** (Marrakech, Ouirgane, Tizi-n'Test), **AA** (Taroudant) – PCPT*Macquartia macularis* Villeneuve, 1926

Herting and Dely-Draskovits 1993

*Macquartia tessellum* (Meigen, 1824)= *Macquartia brevicornis* Macquart, in Séguy 1941d: 23Séguy 1941d, **MA**, Meknès, **HA**, Tizi-n'Test; Mouna 1998; **HA** (Imlil, S Asni, Tizi-n'Test), **AA** (Taroudant) – PCPT

## Megaprosopini

***Microphthalma* Macquart, 1844***Microphthalma europaea* Egger, 1860Ebejer et al. 2019, **AA**, Ziz river (30 km N of Erfoud, 894 m)

## Minthoini

***Hyperaea* Robineau-Desvoidy, 1863***Hyperaea femoralis* (Meigen, 1824)

Herting and Dely-Draskovits 1993

***Mintho* Robineau-Desvoidy, 1830***Mintho compressa* (Fabricius, 1787)

Walker 1849; Herting and Dely-Draskovits 1993

*Mintho rufiventris* (Fallén, 1817)= *Mintho praeceps* (Scopoli, 1763), in Séguy 1930a: 143; Séguy 1953a: 91Séguy 1930a, **AP**, Rabat, Casablanca, **MA**, Meknès; Séguy 1953a, **SA**, El Aïoun du Draa; Séguy 1949a, **AA**, Tata; Mouna 1998; Dawah 2011; **AP** (Rabat, Salé), **MA** (Meknès) – MISR; **MA** (Meknès, Ifrane (NPI)), **AA** (11 km NW Taliouine) – PCPT***Minthodes* Brauer & Bergenstamm, 1889***Minthodes numidica* Villeneuve, 1932\***AA***Minthodes setifacies* Mesnil, 1939= *Minthodes* (*Myxominthodes*) *setifacies* Mesnil, in Mesnil 1939: 211Mesnil 1939, **MA**, Forêt Azrou; Herting and Dely-Draskovits 1993

***Plesina* Meigen, 1838***Plesina phalerata* (Meigen, 1824)

Herting and Dely-Draskovits 1993; Cerretti and Tschorsnig 2008

***Pseudomintho* Brauer & Bergenstamm, 1889***Pseudomintho diversipes* (Strobl, 1889)Ebejer et al. 2019, **Rif**, Moulay Abdelsalam (PNPB, 965 m); **AP** (Essaouira, 4 km E Ounara) – PCPT

## Siphonini

***Actia* Robineau-Desvoidy, 1830***Actia infantula* (Zetterstedt, 1844)Ebejer et al. 2019, **Rif**, Tanger (Douar Dakchire forest, 320 m)***Peribaea* Robineau-Desvoidy, 1863***Peribaea apicalis* Robineau-Desvoidy, 1863Ebejer et al. 2019, **Rif**, Dardara (484 m)*Peribaea tibialis* (Robineau-Desvoidy, 1851)

Draber-Mońko 2011

***Siphona* Meigen, 1803***Siphona geniculata* (De Geer, 1776)<sup>65</sup>Séguy 1930a, **HA**; Mouna 1998; **HA** (Vallée Oued N'fis) – MISR*Siphona maroccana* Cerretti & Tschorsnig, 2007Cerretti and Tschorsnig 2007, **HA**, Asif Mellah, W Tizi-n'Tichka*Siphona variata* Andersen, 1982Ebejer et al. 2019, **Rif**, Sidi Yahia Aârab (377 m), Oued Kbir (PNPB, 157 m)

## Tachinini

***Germaria* Robineau-Desvoidy, 1830***Germaria barbara* Mesnil, 1963\***HA*****Peleteria* Robineau-Desvoidy, 1830***Peleteria ruficornis* (Macquart, 1835)\***HA, AA*****Tachina* Meigen, 1803***Tachina corsicana* (Villeneuve, 1931)\***HA, AA***Tachina fera* (Linnaeus, 1761)Becker and Stein 1913, **Rif**, Tanger; Séguy 1930a, **MA**, Tizi-s'Tkrine, Forêt Tiffert, Sidi Bettache, **HA**, Arround (Skoutana), Jebel Likount; Séguy 1953a,

<sup>65</sup> *Siphona geniculata*: the identifications of this species in the cited references were made before the revision of the genus by Andersen (1996) and may be mistaken. Although this species could be present in Morocco, this needs to be confirmed.

**MA**, Ifrane (1650 m); Mouna 1998; **Rif** (fir forest of Talassemtane), **AP** (Dradek) – MISR (**MA**, Meknès); **MA** (Ifrane (NPI)), Béni Mellal, Bin-el-Ouidane), **HA** (Marrakech, Ouirgane) – PCPT

*Tachina magnicornis* (Zetterstedt, 1844)

Séguy 1930a, **MA**, Ras el Ksar, Aïn Leuh, Sidi Bettache; Mouna 1998; **MA** (Béni Mellal, El Ksiba, 5 km N) – PCPT

*Tachina praeceps* Meigen, 1824

**HA**, **AA**

Triarthriini

***Lissoglossa* Villeneuve, 1912**

*Lissoglossa bequaerti* Villeneuve, 1912

Herting and Dely-Draskovits 1993

### **New records for Morocco**

The data added under the abbreviation “PCPT” (for “personal communication Hans-Peter Tschorsnig”) are based on (unpublished) material which was identified by HPT for several collectors (M. Hauser, M. Hradský, C.F. Kassebeer, U. Koschwitz, J.A.W. Lucas, G. Miksch, H. and T. v. Oorschot, C. Schmid-Egger, M. Schwarz, K. Špatenka, V. Vrabec) during the last ~ 30 years. Usually only a few duplicate specimens were retained in the collection of SMNS. The main part was sent back to the collectors, but the data were noted by HPT on handwritten lists.

*Estheria iberica* Tschorsnig, 2003

Middle Atlas: Ifrane, National Park of Ifrane, 19.ix.1989, K. Špatenka leg, 1 specimen, PCPT.

*Athrycia trepida* (Meigen, 1824)

Middle Atlas: Meknès; Ifrane, National Park of Ifrane, 22.v.1995, C. Kassebeer leg., 1 specimen, PCPT.

*Eriothrix rufomaculata* (De Geer, 1776)

Middle Atlas: Ifrane, Forêt de Cèdres, 29.iv.1999, V. Vrabec leg., 1 specimen, PCPT.

High Atlas: Marrakech, Oukaïmeden, 19.v.1995, C. Kassebeer leg., 7 specimens, PCPT.

*Kirbya moerens* (Meigen, 1830)

Middle Atlas: Ifrane, Forêt de Cèdres, 29.iv.1999, V. Vrabec leg., 1 specimen, PCPT.

*Carcelia lucorum* (Meigen, 1824)

High Atlas: Marrakech, Imlil, S Asni, 24.iii.1995, C. Kassebeer leg., 1 specimen, PCPT.

*Drino galii* (Brauer & Bergenstamm, 1891)

High Atlas: Marrakech, Ouirgane, 24.iii.1995, C. Kassebeer leg., 1 specimen, PCPT.

Anti Atlas: 11 km NW Taliouine; Agadir, Ameskrout, 17.v.1995, C. Kassebeer leg., 2 specimens, PCPT.

*Chetogena media* Rondani, 1859

Middle Atlas: Béni Mellal, El Ksiba, 30.iii.1995, C. Kassebeer leg., 1 specimen, PCPT.

*Exorista rendina* (Herting, 1975)

Anti Atlas: 11 km NW Taliouine, 15.iii.1997, M. Hauser leg., 1 male in SMNS; 10 km NE Tafraoute, 14.iii.1997, G. Miksch leg., 1 male in SMNS, PCPT.

*Anurophylla aprica* (Villeneuve, 1912)

Middle Atlas: Béni Mellal, Afourer, 28.iii.1995, C. Kassebeer leg., 1 female in SMNS, PCPT.

*Blepharipa pratensis* (Meigen, 1824)

High Atlas: Tizi-n'Test, 2000 m, 21.v.1995, M. Hauser leg., 2 specimens, PCPT.  
Anti Atlas: Taroudant, PCPT.

*Gonia maculipennis* Egger, 1862

Middle Atlas: Ifrane, Forêt de Cèdres, 29.iv.1999, V. Vrabec leg., 1 female in SMNS, PCPT.

*Gonia vacua* Meigen, 1826

Middle Atlas: Meknès; Ifrane, National Park of Ifrane, 29.iii.1995 and 22.v.1995, C. Kassebeer leg., 2 specimens, PCPT.

*Besseria lateritia* (Meigen, 1824)

High Atlas: SE Asni, Imlil, 23.v.1995, M. Hauser leg., 2 specimens; Marrakech, Lakhdar, N Demnate, 27.iii.1995, C. Kassebeer leg., 1 specimen, PCPT.

*Phania albisquama* (Villeneuve, 1924)

Middle Atlas: Ifrane, Forêt de Cèdres, 29.iv.1999, V. Vrabec and L. Vrabcová leg., 1 specimen, PCPT.

*Clairvillia biguttata* (Meigen, 1824)

High Atlas: Marrakech, Lakhdar, N Demnate, 27.iii.1995, C. Kassebeer leg., 1 specimen, PCPT.

*Dionomelia hennigi* Kugler, 1978

**SA:** Boujdour, 8.v.1999, V. Vrabec leg., 1 male in SMNS, PCPT.

*Leucostoma crassum* Kugler, 1966

High Atlas: Tizi-n'Test, pass 23.vi.1996, U. Koschwitz leg., 1 male in SMN, PCPT.

*Weberia digramma* (Meigen, 1824)

Anti Atlas: 10 km NW Aït-Baha, PCPT.

*Xysta holosericea* (Fabricius, 1805)

High Atlas: Marrakech, Lakhdar, N Demnate, 27.iii.1995, C. Kassebeer leg., 1 specimen, PCPT.

*Linnaemya soror* Zimin, 1954

Middle Atlas: Béni Mellal, El Ksiba, 5 km N; Béni Mellal, Afourer; Khénifra, Tighassaline; Meknès; National Park of Ifrane.

High Atlas: Marrakech, Ouirgane; Marrakech, Tagaddirt, S Asni; Marrakech, Lakhdar, N Demnate.

Anti Atlas: 11 km NW Taliouine, all C. Kassebeer leg., 57 specimens (collected between 25.iii. and 23.v.1995), PCPT.

*Panzeria castellana* (Strobl, 1906)

High Atlas: Marrakech, Ouirgane, 26.iii.1995, C. Kassebeer leg., 1 specimen, PCPT.

*Panzeria nemorum* (Meigen, 1824)

Middle Atlas: Meknès; National Park of Ifrane, 22.v.1995, C. Kassebeer leg., 1 specimen, PCPT.

*Graphogaster vestita* Rondani, 1868

Middle Atlas: Ifrane, Forêt de Cèdres, 29.iv.1999, V. Vrabec leg., 1 specimen, PCPT.

*Minthodes numidica* Villeneuve, 1932

Anti Atlas: S Aït-Baha, PCPT.

*Germaria barbara* Mesnil, 1963

High Atlas: S Tizi-n'Test, 1900 m, PCPT.

*Peleteria ruficornis* (Macquart, 1835)

High Atlas: Marrakech, Ouirgane; Marrakech, Tagaddirt, S Asni; Tizi-n'Test.

Anti Atlas: Taroudant, all C. Kassebeer leg., 6 specimens (collected between 28.ix.1994 and 1.iv.1995), PCPT.

*Tachina corsicana* (Villeneuve, 1931)

High Atlas: Marrakech, Oukaïmeden, 19.v.1995, C. Kassebeer leg., 1 specimen;

Tizi-n'Test. Anti Atlas: Taroudant, 21.v.1995, M. Hauser leg., 2 specimens, PCPT.

*Tachina praeceps* Meigen, 1824

High Atlas: Marrakech, Oukaïmeden, 2500 m, 27.vi.1987, M. Schwarz leg., 1 specimen; Tizi-n'Test.

Anti Atlas: Taroudant, 29.vi.1987, M. Schwarz leg., 1 specimen, PCPT.

## References

- Abkari A, Jouhadi Z, Hamdani A, Mikou N, Guessous N, Khalifa H (1998) La myiase gastro-intestinale. A propos d'une observation marocaine. Manuscrit N°1928. "Clinique".
- Abonnenc E (1972) Les phlébotomes de la région éthiopienne (Diptera: Psychodidae). Mémoire ORSTOM 55: 1–288.
- Aboussaid H, El Messoussi S, Lhor Oufdou K (2009) Activité insecticide d'une souche marocaine de *Bacillus thuringiensis* sur la mouche méditerranéenne: *Ceratitis capitata* (Wied.) (Diptera: Tephritidae). Afrique Science 5(1): 160–172. <https://doi.org/10.4314/afsci.v5i1.61719>

- Ačanski J, Vujić A, Djan M, Obreht Vidaković D, Ståhls G, Radenknović S (2016) Defining species boundaries in the *Merodon avidus* complex (Diptera: Syrphidae) using integrative taxonomy, with the description of a new species. *European Journal of Taxonomy* 237: 1–25. <https://doi.org/10.5852/ejt.2016.237>
- Ackland DM (1987) The genus *Anthomyia* in the Oriental Region (Diptera: Anthomyiidae). *Insecta matsumurana* 36: 39–60.
- Ackland DM (2001) Revision of Afrotropical *Anthomyia* Meigen, 1803 (Diptera: Anthomyiidae), with descriptions of ten new species. *African Invertebrates* 42: 1–94.
- Ackland DM (2008) Revision of Afrotropical *Delia* Robineau-Desvoidy, 1830 (Diptera: Anthomyiidae), with descriptions of six new species. *African Invertebrates* 49(1): 1–75. <https://doi.org/10.5733/afin.049.0101>
- Ackland DM, Pont AC (1966) *Lispocephala unguolata* (Rondani, 1866) (Diptera: Muscidae), a species distinct from *L. alma* (Meigen, 1826). *Stuttgarter Beiträge zur Naturkunde* 161: 1–5.
- Adghir A, de Jong H, Kettani K (2018) The Tipulidae (Diptera) of northern Morocco with a focus on the Rif region, including the description of a new species of *Tipula* (*Lunatipula*) and an updated checklist for Morocco. *Annales de la Société entomologique de France* (N.S.) 54(6): 522–538. <https://doi.org/10.1080/00379271.2018.1530949>
- Adlaoui E, Faraj C, El Bouhmi M, El Aboudi A, Ouahabi S, Tran A, Fontenille D, El Aouad R (2011) Mapping Malaria Transmission Risk in Northern Morocco Using Entomological and Environmental Data. *Malaria Research and Treatment* 2011: e391463. <https://doi.org/10.4061/2011/391463>
- Adler P (2019) World blackflies (Diptera: Simuliidae): A comprehensive revision of the taxonomic and geographical inventory [2019]. *Zootaxa* 4455(1): 1–144. <http://biomia.sites.clemson.edu/pdfs/blackflyinventory.pdf> [accessed in 2019]
- Adler PH, Belqat B (2001) Cytotaxonomy of the *Prosimulium hirtipes* species group (Diptera: Simuliidae) in Morocco. *Journal of Insect Systematics and Evolution* 32: 411–418. <https://doi.org/10.1163/187631201X00281>
- Adler PH, Şirin Ü (2014) Cytotaxonomy of the *Prosimulium* (Diptera: Simuliidae) of Western Asia. *Zoological Journal of the Linnean Society* 171: 753–768. <https://doi.org/10.1111/zoj.12150>
- Adler PH, Cherairia M, Arigue SF, Samraoui B, Belqat B (2015) Cryptic biodiversity in the cytogenome of bird-biting blackflies in North Africa. *Medical and Veterinary Entomology* 29(3): 276–289. <https://doi.org/10.1111/mve.12115>
- Adler PH, Crosskey RW (2017) World blackflies (Diptera: Simuliidae): A comprehensive revision of the taxonomic and geographical inventory [2017]. <https://biomia.sites.clemson.edu/pdfs/blackflyinventory.pdf> [accessed September 2017]
- AEFCS [Administration des Eaux et Forêts et de la Conservation des Sols] (1996) Plan d'aménagement et de gestion du Parc National du Toubkal. 226 pp.
- Aellen V (1952) Contribution à la connaissance des diptères pupipares du Maroc. *Bulletin de la Société scientifique naturelle et physique du Maroc* 31: 149–152.
- Aellen V (1955) Etude d'une collection de Nycteribiidae et de Streblidae de la région paléarctique occidentale, particulièrement de la Suisse. *Bulletin de la Société neuchâteloise des sciences naturelles* 78: 81–104.



- Aellen V (1963) Les Nycteribiidés de la Suisse, diptères parasites de chauves-souris. Bulletin de la Société neuchâteloise des sciences naturelles 86: 143–154.
- Afonso JM, Hernandez M, Padron G, Gonzalez AM (1985) Gametic non-random associations in North-West African populations of *Drosophila melanogaster*. Genetica 67: 3–11. <https://doi.org/10.1007/BF02424455>
- Afonso JM, Volz A, Hernandez M, Ruttkay H, Gonzalez M, Larruga JM, Cabrera VM, Sperlich D (1990) Mitochondrial DNA variation and genetic structure in Old-World populations of *Drosophila subobscura*. Molecular Biology and Evolution 7: 123–142.
- Afzan H, Belqat B (2016) Faunistic and bibliographical inventory of the Psychodinae moth-flies of North Africa (Diptera, Psychodidae). ZooKeys 558: 119–145. <https://doi.org/10.3897/zookeys.558.6593>
- Alaoui Slimani N (2002) Faune culicidienne d’une zone marécageuse de Rabat-Salé: Biotypologie et contribution à la lutte par des substances naturelles. Thèse de Doctorat d’Etat, Université Mohammed V, Rabat, 192 pp.
- Alaoui Slimani N, Jouid N, Benhoussa A, Hajji K (1999) Typologie des habitats d’*Anopheles* dans une zone urbaine (Diptera Culicidae). L’entomologiste 55(5): 181–190.
- Alberola TM, de Frutos R (1993) Gypsy Homologous Sequences in *Drosophila subobscura* (gypsyDS). Journal of molecular Evolution 36: 127–135. <https://doi.org/10.1007/BF00166248>
- Alberola TM, Frutos R (1996) Molecular structure of a gypsy element of *Drosophila subobscura* (gypsyDs) constituting a degenerate form of insect retroviruses. Nucleic Acids Research 24(5): 914–923. <https://doi.org/10.1093/nar/24.5.914>
- Alluaud C (1923) Sur la présence d’un diptère de la Famille des Blépharoceridés. Bulletin de la Société scientifique naturelle du Maroc Tome III: 23–28.
- Allemand R, David JR (1976) The circadian rhythm of oviposition in *Drosophila melanogaster*: A genetic latitudinal cline in wild populations. Experientia 32: 1403–1405. <https://doi.org/10.1007/BF01937401>
- Amraoui F (2012) Le moustique *Culex pipiens*, vecteur potentiel des virus West Nile et fièvre de la vallée du Rift dans la région du Maghreb. Thèse de Doctorat National, Université Mohammed V, Rabat, Maroc, 105 pp.
- Amraoui F, Krida G, Bouattour A, Rhim A, Daaboub J, Harrat Z, Boubidi SC, Tijane M, Sarih M, Failloux AB (2012) *Culex pipiens*, an Experimental Efficient Vector of West Nile and Rift Valley Fever Viruses in the Maghreb Region. PLoS ONE 7(5): e36757. <https://doi.org/10.1371/journal.pone.0036757>
- Amraoui F, Tijane M, Sarih M, Failloux AB (2012) Molecular evidence of *Culex pipiens* form *molestus* and hybrids *pipiens/molestus* in Morocco, North Africa. Parasites & Vectors 5(1): 83–86. <https://doi.org/10.1186/1756-3305-5-83>
- Amraoui F, Ben Ayed W, Madec Y, Faraj C, Himmi O, Ameer B, Sarih M, Failloux B (2019) Potential of *Aedes albopictus* to cause the emergence of arboviruses in Morocco. PLOS Neglected Tropical Diseases 13(2): e0006997. <https://doi.org/10.1371/journal.pntd.0006997>
- Amri A, El Bouhssini M, Jlibene M, Cox TS, Hatchett JH (1992) Evaluation of *Aegilops* and *Triticum* species for resistance to the Moroccan Hessian fly (Diptera: Cecidomyiidae). Al Awamia 77: 109–118.
- Andersen S (1996) The *Siphonini* (Diptera: Tachinidae) of Europe. Fauna entomologica Scandinavica 33: 146 pp.

- Andrade R, Almeida J (2010) New records of the family Chyromyidae (Diptera: Brachycera) for mainland Portugal. *Boletín de la Sociedad Entomológica Aragonesa* 46: 146.
- Andreassen L (2007) Post diapause development of *Delia radicum* (Diptera: Anthomyiidae) and host range of *Aleochara bipustulata* (Coleoptera: Staphylinidae) for classical biological control in Canadian Canola. A Thesis/Practicum submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirement of the degree Master of Science. 171 pp.
- Andréu Rubio JN (1959) Bombilidos marroquies del Instituto español de Entomología (Díptera). *EOS, Revista Española de Entomología* 35(1): 7–19.
- d'Anfreville L (1916) Les Moustiques de Salé (Maroc). *Bulletin de la Société de pathologie exotique* 9: 104–142.
- Aouinty B, Oufaras S, Mellouki F, Mahari S (2006) Évaluation préliminaire de l'activité larvicide des extraits aqueux des feuilles du ricin (*Ricinus communis* L.) et du bois de thuya (*Tetraclinis articulata* (Vahl) Mast.) sur les larves de quatre moustiques culicidés: *Culex pipiens* (Linné), *Aedes caspius* (Pallas), *Culiseta longiareolata* (Aitken) et *Anopheles maculipennis* (Meigen). *Biotechnologie, Agronomie, Société et Environnement* 10(2): 67–71.
- Arahou M (2008) Catalogue de l'entomofaune du Chêne vert du Moyen Atlas (Maroc). Documents de l'Institut scientifique Rabat 22: 1–36.
- Arias J (1913) Sobre los nemestrínidos de Marruecos. *Boletín de la Real Sociedad Española de Historia Natural* 13: 150–154.
- Arias J (1914) Dípteros de España. Fam. Mydidae. Con descripción de algunas especies del Norte de Africa. *Trabajos del Museo de Ciencias Naturales de Madrid, Serie zoológica* XV: 1–40. [10 fig, 6 pl.]
- Arrondo IR, de Blas Giral I (2017) Book of abstracts. VII International Simuliidae Symposium, 5–8 September 2016. Zaragoza, Spain. *Simuliid Bulletin* 47 (Supplement): 1–43.
- Ashburner M, Lemeunier F (1976) Relationships within the *melanogaster* species subgroup of the genus *Drosophila* (*Sophophora*). I. Inversion polymorphisms in *Drosophila melanogaster* and *Drosophila simulans*. *Proceedings of the Royal Society of London Series B* 193: 137–157.
- Ashe P, Cranston PS (1990) Family Chironomidae. In: Soós Á, Papp L (Eds) *Akadémiai Kiadó*, Budapest, 113–355. [499 pp]
- Ashe P, O'Connor JP (2009) A World Catalogue of Chironomidae (Diptera). Part 1. Buchonomyiinae, Chilenomyiinae, Podonominae, Aphroteniinae, Tanypodinae, Usambaromyiinae, Diamesinae, Prodiamesinae and Telmatogetoninae. Irish Biogeographical Society & National Museum of Ireland, Dublin, 445 pp.
- Ashe P, O'Connor JP (2012) A World Catalogue of Chironomidae (Diptera). Part 2. Orthocladiinae (Section A & Section B). Irish Biogeographical Society & National Museum of Ireland, Dublin, 968 pp.
- Ashe P, O'Connor JP, Murray DA (2015) A review of the distribution and ecology of *Buchonomyia thienemanni* Fittkau (Diptera: Chironomidae) including a first record for Russia. *European Journal of environmental Sciences* 5(1): 5–11. <https://doi.org/10.14712/23361964.2015.69>
- Ayala FJ, Serra L, Prevosti A (1989) A grand experiment in evolution: the *Drosophila subobscura* colonization of the Americas. *Genome* 31: 246–255. <https://doi.org/10.1139/g89-042>

- Ayoub M (2002) Study on the introduction of organic tomato greenhouse in Massa plain, Agadir, South Morocco. DSPU thesis in Mediterranean Organic Agriculture, Organic Agriculture, Mediterranean agronomic institute of Bari, 30 pp.
- Ayrinhac A, Debat V, Gibert P, Kister AG, Legout H, Moreteau B, Vergilino R, David JR (2004) Cold adaptation in geographical populations of *Drosophila melanogaster*: phenotypic plasticity is more important than genetic variability. *Functional Ecology* 18: 700–706. <https://doi.org/10.1111/j.0269-8463.2004.00904.x>
- Azzam A, Azzam S, Lhaloui S, Amri A, El Bouhssini M, Moussaoui M (1997) Economic Returns to Research in Hessian fly (Diptera: Cecidomyiidae). Resistant Bread-Wheat Varieties in Morocco. *Journal of economic Entomology* 90(1): 1–5. <https://doi.org/10.1093/jee/90.1.1>
- Azzouzi A, Laville H (1987) Premier inventaire faunistique des Chironomidés (Diptera, Chironomidae) du Maroc. *Annals de Limnologie* 23(3): 217–224. <https://doi.org/10.1051/limn/1987020>
- Azzouzi A, Laville H, Reiss F (1992) Nouvelles récoltes de Chironomidés (Diptera) du Maroc. *Annals de Limnologie* 28(3): 225–232. <https://doi.org/10.1051/limn/1992019>
- Baba-Aissa F, Solignac M, Dennebouy N, David JR (1988) Mitochondrial DNA variability in *Drosophila simulans*: quasi absence of polymorphism within each of the three cytoplasmic races. *Heredity* 61: 419–426. <https://doi.org/10.1038/hdy.1988.133>
- Bächli G (1982) On the type material of Palaearctic species of Drosophilidae (Diptera). *Beiträge zur Entomologie* 32: 289–301.
- Bächli G (2015) TaxoDros (The database on Taxonomy of Drosophilidae) compiled by Gerhard Bächli. <http://www.TaxoDros.uzh.ch/> [accessed March 2015]
- Bächli G (2020) TaxoDros (The database on Taxonomy of Drosophilidae) compiled by Gerhard Bächli. <http://www.TaxoDros.uzh.ch/> [accessed March 2019]
- Bächli G, Rocha Pité MT (1984) Family Drosophilidae. In: Soós Á, Papp L (Eds) *Catalogue of Palaearctic Diptera*. Vol. 10: Clusiidae – Chloropidae. Akadémiai Kiadó, Budapest, 186–220. [402 pp]
- Bader K, Arabyat S (2004) The beeﬂies (Diptera: Bombyliidae) of Jordan. *Denisia* 14, zugleich Kataloge der OÖ. Landesmuseum, neue Serie 2: 353–384.
- Badrawy H, Mohammad SK (2013) A revision of the Egyptian species of the genus *Actorthia* Kröber (Diptera: Therevidae: Phycinae). *Zootaxa* 3613(2): 181–189. <https://doi.org/10.11646/zootaxa.3613.2.6>
- Báez M (1978) Los Hipoboscidos de las Islas Canarias (Diptera, Hippoboscidae). *Boletín de la Estación central de Ecología* 13: 59–72.
- Bahid FZ (2018) Les Empidinae (Insecta, Diptera, Empidoidea) du Maroc: Taxonomie, systématique, atlas de répartition et écologie. Thèse Es-Sciences, Université Abdelmalek Essaadi, Tétouan, Maroc, 274 pp.
- Bahid FZ, Kettani K, Daugeron C (2017) Two new species of the *Empis* (*Leptempis*) *rustica* group of the Mediterranean basin (Diptera: Empididae: Empidinae). *Annales de la Société entomologique de France* (N.S.). *International Journal of Entomology* 53(6): 422–427. <https://doi.org/10.1080/00379271.2017.1399085>
- Bahid FZ, Kettani K, Daugeron C (2018) A new species of *Empis* (*Xanthempis*) from Morocco (Diptera, Empididae, Empidinae). *Bulletin de la Société entomologique de France* 123(1): 119–123. [https://doi.org/10.32475/bsef\\_2026](https://doi.org/10.32475/bsef_2026)

- Bailly-Choumara H (1965a) Présence de *Mansonia (Coquillettidia) richiardii* (Ficalbi, 1896) et *Mansonia (Coquillettidia) buxtoni* (Edwards) 1923 au Maroc. Première récolte d'espèce du genre *Mansonia* Blanchard, 1901 en Afrique du Nord (Diptera, Culicidae). Bulletin de la Société de pathologie exotique 58: 676–679.
- Bailly-Choumara H (1965b) Présence au Maroc d'*Orthopodomyia pulchripalpis* Rondani, 1872 (Diptera, Culicidae). Bulletin de la Société des sciences naturelles et physiques du Maroc 1<sup>e</sup> et 2<sup>e</sup> trimestres, 45: 39–41.
- Bailly-Choumara H (1965c) Rapport d'une mission entomologique effectuée dans la province d'Agadir, du 19.04.65 au 09.05.65. Laboratoire d'Entomologie, Institut Scientifique Chérifien, Rabat, 11 pp.
- Bailly-Choumara H (1966) Rapport d'une mission entomologique effectuée dans les provinces d'Agadir et de Tarfaya du 30.05.66 au 09.06.66. Laboratoire d'Entomologie, Institut Scientifique Chérifien, Rabat, 7 pp.
- Bailly-Choumara H (1967a) Récapitulation des récoltes d'entomologie médicale dans le Moyen Atlas de 1964 à 1966, Laboratoire d'Entomologie, Institut Scientifique Chérifien, Maroc, 9 pp.
- Bailly-Choumara H (1967b) Rapport d'une mission entomologique effectuée dans la vallée de la Moulouya du 1.10.67 au 10.10.67. Laboratoire d'Entomologie, Institut scientifique Chérifien, Rabat, 11 pp.
- Bailly-Choumara H (1967c) Récapitulation des récoltes d'entomologie médicale effectuées dans le Rif de 1964 à 1966. Laboratoire d'Entomologie, Institut Scientifique Chérifien, Maroc, 8 pp.
- Bailly-Choumara H (1968a) Contribution à l'étude des moustiques du Maroc (Diptera, Culicidae). Six espèces nouvelles pour le pays. Cahiers ORSTOM, Série Entomologie médicale 6(2): 139–144.
- Bailly-Choumara H (1968b) Etude du rendement *Anopheles labranchiae* des pièges C.D.C. fonctionnant sur batteries de 4,5 volts ou 6 volts avec ou sans ampoule réalisée à Larache-Sheishat, Maroc, Rapport N°70/36, Laboratoire d'Entomologie, Institut Scientifique Chérifien, Rabat, 5 pp.
- Bailly-Choumara H (1970) Comparaison entre différentes méthodes de récolte de Moustiques adultes au Maroc. Rapport final du contrat de recherches O.M.S.M2/181/91, N°58/70, Laboratoire d'Entomologie, Institut Scientifique Chérifien, Maroc, 42 pp.
- Bailly-Choumara H (1972a) Etude détaillée d'une récolte d'*Anopheles labranchiae* par pièges lumineux portatifs C.D.C. (4,5 volts), avec examen de la faune résiduelle, réalisée à Larache, Maroc. Rapport N°10/72, Laboratoire d'Entomologie, Institut Scientifique Chérifien, Rabat, 18 pp.
- Bailly-Choumara H (1972b) Evaluation de la capture manuelle à l'aspirateur par des récoltes consécutives au pyrèthre, faite pour *Anopheles labranchiae* à Larache-Sheishat, Maroc (le 31 mai 1968). Rapport N°27/72, Laboratoire d'Entomologie, Institut Scientifique Chérifien, Rabat, 4 pp.
- Bailly-Choumara H (1973a) Etude préliminaire d'une récolte d'*Anopheles labranchiae* par piège CDC réalisée dans la région de Larache, Maroc. Bulletin de l'Organisation Mondiale de la Santé 49: 49–55.
- Bailly-Choumara H (1973b) Etude comparative de différentes techniques de récolte de Moustiques adultes (Diptera, Culicidae) faite au Maroc, en zone rurale. Bulletin de la Société des sciences naturelles et physiques du Maroc 1<sup>er</sup> et 2<sup>ème</sup> trimestre 53: 135–188.

- Bailly-Choumara H (1977) Bibliographie entomologique marocaine. Retrospective de 1870 à 1975 inclus. Documents de l'Institut Scientifique 1, Rabat, 216 pp.
- Bailly-Choumara H, Kremer M (1970) Deuxième contribution à l'étude des *Culicoides* du Maroc (Diptera, Ceratopogonidae). Cahiers ORSTOM, Série Entomologie médicale et Parasitologie 8(4): 383–391.
- Bailly-Choumara H, Abonnenc E, Pastre J (1971) Contribution à l'étude des Phlébotomes du Maroc (Diptera, Psychodidae). Données faunistiques et écologiques. Cahiers ORSTOM, Série Entomologie médicale et Parasitologie 9(4): 431–460.
- Bailly-Choumara H, Leger N (1976) Présence de *Sergentomyia schwetzi* Adler, Théodor et Parrot (Diptera, Phlebotomidae) dans le Sud marocain. Cahiers ORSTOM., Série Entomologie médicale et Parasitologie vol. XIV, no 1: 13–14.
- Bailly-Choumara H, Beaucournu-Saguez F (1978) Contribution à l'étude des simulies du Maroc (Diptera, Simuliidae). 1. Le Rif. Bulletin de l'Institut scientifique, Rabat 3: 121–144.
- Bailly-Choumara H, Beaucournu-Saguez F (1981) Contribution à l'étude des simulies (Diptera, Simuliidae) du Maroc. 2. Le Haut-Atlas. Bulletin de l'Institut scientifique, Rabat 5: 39–57.
- Balachowsky A, Mesnil L (1935) Les insectes nuisibles aux plantes cultivées. Tome 1: 1058–1061. Paris.
- Balenghien T, Pagès N, Goffredo M, Carpenter S, Augot D, Jacquier E, Talaver S, Monaco F, Depaquit J, Grillet C, Pujols J, Satta G, Kasbari M, Setier-Rio ML, Izzo F, Alkan C, Delécolle JC, Quaglia M, Charrel R, Polci A, Bréard E, Federici V, Cêtre-Sossah C, Garros C (2014) The emergence of Schmallenberg virus across *Culicoides* communities and ecosystems in Europe. Preventive Veterinary Medicine 116(4): 360–369. <https://doi.org/10.1016/j.prevetmed.2014.03.007>
- Banamar O, Chandler PJ, Driauach O, Belqat B (2020) New faunistic records of the family Mycetophilidae (Insecta, Diptera) from Morocco. ZooKeys 934: 93–110. <https://doi.org/10.3897/zookeys.934.49157>
- Barták M, Gregor F, Rozkošný R (2004) New records of interesting Palaearctic Muscidae. In: Kubík Š, Barták M (Eds) Dipterologica bohemoslovaca Vol. 11. Folia Facultatis Scientiarum Naturalium. Universitatis Masarykianae Brunensis, Biologia 109: 7–16.
- Barták M, Kubík Š (2005) Diptera of Podyjí National Park and its Environs. Česká Zemedelská Univerzita v Praze Fakulta Agrobiologie, Portvinových a Přírodních Zdrju, 432 pp.
- Baylis M, El Hasnaoui H, Bouayoune H, Touti J, Mellor PS (1997) The spatial and seasonal distribution of African horse sickness and its potential *Culicoides* vectors in Morocco. Medical and Veterinary Entomology 11(3): 203–212. <https://doi.org/10.1111/j.1365-2915.1997.tb00397.x>
- Bazyar Z, Dousti AF, von Tschirnhaus M, Fallahzadeh M (2015) A first overview of the fauna of Chloropidae of Iran (Diptera, Acalyptratae). Turkish Journal of Zoology 39(6): 1041–1049. <https://doi.org/10.3906/zoo-1405-3>
- Beaucournu-Saguez F, Bailly-Choumara H (1981) *Prosimulium* (*Prosimulium*) *laamii* n. sp. (Nematocera, Simuliidae), simolie nouvelle du nord du Maroc. Cahiers ORSTOM, Série Entomologie médicale et Parasitologie 19: 113–119.
- Beaucournu JC, Beaucournu-Saguez F, Guiguen C (1985) Nouvelles données sur les diptères pupipares (Hippoboscidae et Streblidae) de la sous-région méditerranéenne occidentale.

- Annales de Parasitologie Humaine et Comparée 60: 311–327. <https://doi.org/10.1051/parasite/1985603311>
- Bechev D, Koç H (2006) Two new species of *Sciophila* Meigen (Diptera: Mycetophilidae) from Turkey, with a key to the Western Palearctic species of the *S. lutea* Macquart group. *Zootaxa* 1253: 61–68.
- Becker T (1902) Aegyptische Dipteren. Mitteilungen aus dem zoologischen Museum in Berlin 2(2): 1–66. <https://doi.org/10.1002/mmnz.4830020237>
- Becker T (1903) Die paläarktischen Formen der Gattung *Mulio* Latreille (Dipt.). Zeitschrift für systematische Hymenopterologie und Dipterologie 3: 89–96.
- Becker T (1906a) *Usia* Latreille. Berliner entomologische Zeitschrift 50[1905]: 193–228.
- Becker T (1906b) Die Ergebnisse meiner dipterologischen Frühjahrsreise nach Algier und Tunis 1906 [part]. Zeitschrift für systematische Hymenopterologie und Dipterologie 6: 145–158. <https://doi.org/10.5962/bhl.title.9280>
- Becker T (1907) Die Ergebnisse meiner dipterologischen Frühjahrsreise nach Algier und Tunis. 1906. Zeitschrift für systematische Hymenopterologie und Dipterologie 7(5): 369–407. <https://doi.org/10.5962/bhl.title.9280>
- Becker T (1910) Chloropidae. Eine monographische Studie. I. Teil. Paläarktische Region. Archivum zoologicum 1(10): 33–174, Tab. I–III. [Budapest] <https://doi.org/10.5962/bhl.title.9555>
- Becker T (1912) Beitrag zur Kenntnis der Thereviden. Verhandlungen der kaiserlich-königlichen zoologisch-botanischen Gesellschaft in Wien 62: 289–319.
- Becker T (1917) Dipterologische Studien. Dolichopodidae A. Paläarktische Region // Nova acta Academiae Caesareae Leopoldino-Carolinae Germanicae Naturae Curiosorum Vol. 102(2): 113–361.
- Becker T (1921) Neue Dipteren meiner Sammlung. Mitteilungen aus dem zoologischen Museum in Berlin 10: 1–93. <https://doi.org/10.1002/mmnz.4830100102>
- Becker T, Stein P (1912) Dipteren aus Marokko. Bulletin de l'Académie Impériale des Sciences de St.-Petersbourg VI Série 6(9): 602–603.
- Becker T, Stein P (1913) Dipteren aus Marokko. Annuaire du Musée zoologique de l'Académie impériale de Sciences de St.-Petersbourg 18: 62–95.
- Bei-Bienko GYa, Steyskal GC (1989) Keys to the Insects of the European Part of the USSR. Vol. V Diptera and Siphonaptera, part 1, 1233 pp/ and part 2, xxii + 1505 pp. [E.J. Brill, Leiden]
- Belakoul N (1985) Contribution à l'étude de la faune culicidienne dendrolimnique de la Subéraie en pays Zaër (Maroc). Colonisation par *Culex pipiens* d'un nouvel habitat: causalité et étude comparée de deux formes de *Culex pipiens* (daya, creux). Mémoire de DEA, Université Paul Sabatier, Toulouse, 113 pp.
- Belqat B (2000) Découverte de *Simulium* (*Obuchovia*) *galloprovinciale* et *Simulium* (*Obuchovia*) *auricoma*: deux nouvelles espèces pour le Nord de l'Afrique. British Simuliid Group Bulletin 15: 15–18.
- Belqat B (2002) Etude Systématique, Ecologique et Caryologique des Simulies (Diptera: Simuliidae) du Maroc: Cas Particulier du Rif. Thèse d'Etat Es Sciences. Université Abdelmalek Essaâdi, Faculté des Sciences, Tétouan, 322 pp.
- Belqat B, Adler PH (2001) Ecologie et biogéographie du genre *Prosimulium* Roubaud (Diptera, Simuliidae) dans le Rif (Nord du Maroc). *Zoologica baetica* 12: 119–134.



- Belqat B, Dakki M (2004) Clés analytiques des Simulies (Diptera) du Maroc. *Zoologica baetica* 15: 77–137.
- Belqat B, Adler PH, Dakki M (2001a) Distribution summary of the Simuliidae of Morocco with new data for the Rif mountains. *British Simuliid Group Bulletin* 17: 10–16.
- Belqat B, Dakki M, Errami M (2001b) Deux nouvelles simulies pour le Nord de l'Afrique: *Simulium* (*Nevermannia*) *angustitarse* et *Simulium* (*Simulium*) *trifasciatum*. *British Simuliid Group Bulletin* 17: 7–10.
- Belqat B, Dakki M, El Alami M (2005) Estructura biotipológica de las principales redes hídricas Rifeñas a través de los Simúlidos (Diptera: Simuliidae). *Ecosistemas* 14: 50–56.
- Belqat B, Bennas N, El Alami M, Kettani K, Aoulad Ali S (2008) Faune Simulidienne (Diptera: Simuliidae) du bassin versant de l'Oued Laou (Maroc). In: Bayed A, Ater M (Eds) Du bassin versant vers la mer: Analyse multidisciplinaire pour une gestion durable- Cas du bassin méditerranéen de Oued Laou. Travaux de l'Institut scientifique, Rabat. Série générale 5: 61–74.
- Belqat B, Adler PH, Crosskey RW (2011) Faunistic and bibliographical inventory of the black-flies (Diptera: Simuliidae) of Morocco. *Zootaxa* 2829: 46–58. <https://doi.org/10.11646/zootaxa.2829.1.2>
- Belqat B, Adler PH, Cherairia M, Chaoui Boudghane-Bendjouis C (2018) Inventory of the Black Flies (Diptera: Simuliidae) of North Africa. *Zootaxa* 4442(2): 201–220. <https://doi.org/10.11646/zootaxa.4442.2.1>
- Benabdelkrim Filali O, Kabine M, El Hamouchi A, Lemrani M, Debboun M, Sarih M (2018) First Molecular Identification and Phylogeny of Moroccan *Anopheles sergentii* (Diptera: Culicidae) Based on Second Internal Transcribed Spacer (ITS2) and Cytochrome c Oxidase I (COI) Sequences. *Vector borne and zoonotic Diseases* 18(9): 479–484. <https://doi.org/10.1089/vbz.2018.2269>
- Benhoussa A, Aguesse P, Dakki M (1993) Microdistribution larvaire de trois populations de simulies (Insecta, Diptera) de l'oued Bou Regreg (Maroc). *Vie et Milieu* 43: 247–253.
- Benhoussa A, El Agbani MA, Qninba A (1988) Dynamique et cycle biologique de quelques populations simulidiennes (Diptera–Simuliidae) du Bou Regreg (Plateau Central marocain). *Bulletin de l'Institut Scientifique, Rabat* 12: 157–165.
- Benmansour N, Aadel A, Mouki B (1972) Étude de la sensibilité au DDT de l'*Anopheles maculipennis labranchiae* au Maroc de 1959 à 1971. *Annales médico-chirurgicales d'Avicenne* 213–219.
- Benmansour N, Laaziri M, Mouki B (1972) Note sur la faune anophilienne du Maroc. *Bulletin de l'Institut d'Hygiène (Nouvelle Série), Rabat* 52: 103–112.
- Bennouna A, Balenghien T, El Rhaffouli H (2016) First record of *Aedes albopictus* (Diptera: Culicidae) in Morocco: a major threat to public health in northern Africa? *Medical and Veterinary Entomology* 31(1): 102–106. <https://doi.org/10.1111/mve.12194>
- Bequaert J (1939) Notes on Hippoboscidae. 13. A Second Revision of the Hippoboscinae. *Psyche* 46: 70–90. <https://doi.org/10.1155/1939/48398>
- Bernard MR, Grenier P, Bailly-Choumara H (1972) Description de *Prosimulium* (*Prosimulium*) *faurei* n.sp. (Diptera: Simuliidae). *Cahiers ORSTOM, Série Entomologie médicale et Parasitologie* 10: 63–68.

- Bernardi N (1973) The genera of the family Nemestrinidae (Diptera: Brachycera). *Arquivos de Zoologia* 24(4): 211–318. <https://doi.org/10.11606/issn.2176-7793.v24i4p211-318>
- Berrahou A, Cellot B, Richoux P (2001) Distribution longitudinale des macroinvertébrés benthiques de la Moulouya et de ses principaux affluents (Maroc). *Annales de Limnologie* 37(3): 223–235. <https://doi.org/10.1051/limn/2001020>
- Bezzi M (1906) Ditteri Eritrei raccolti dal Dott. Andreini e dal Prof. Tellini. Parte prima. Diptera Orthorrhapha. *Bulletino della Società entomologica italiana* 37: 195–304.
- Biémont C, Nardon C, Deceliere G, Lepetit D, Loevenbruck C, Vieira C (2003) Worldwide distribution of transposable element copy number in natural populations of *Drosophila simulans*. *Evolution* 57: 159–167. <https://doi.org/10.1111/j.0014-3820.2003.tb00225.x>
- Bigot JMF (1884) Diptères nouveaux ou peu connus. 24e partie. XXXII. Syrphidi (2e partie). Espèces nouvelles, III. *Annales de la Société entomologique de France* 6(4): 73–116.
- Biliotti É (1956) Biologie de *Phryxe caudata* Rond., parasite de la chenille processionnaire du pin (*Thaumetopoea pityocampa* Schiff.). *Revue de Pathologie végétale et d'Entomologie agricole de France* 35: 50–65.
- Biron DG, Landry BS, Nénon JP, Coderre D, Boivin G (2000) Geographical origin of an introduced pest species, *Delia radicum* (Diptera: Anthomyiidae), determined by RAPD analysis and egg micromorphology. *Bulletin of entomological Research* 90: 23–32. <https://doi.org/10.1017/S0007485300000675>
- Bkhache M, Tmimi FZ, Charafeddine O, Filali OB, Lemrani M, Labbé P, Sarih M (2018) G119S ace-1 mutation conferring insecticide resistance detected in the *Culex pipiens* complex in Morocco. *Pest Management Science* 75(1): 286–291. <https://doi.org/10.1002/ps.5114>
- Bléton C-A (1938) Observations sur la biologie d'*Hylemyia sepia* Meigen (Diptera, Muscidae), parasite du blé au Maroc. *Bulletin de la Société scientifique naturelle du Maroc* 18: 3–5.
- Bléton C-A, Fieuzet L (1939) Notes sur quelques insectes auxiliaires observés dans la région de Fès. *Bulletin de la Société scientifique naturelle du Maroc* 19(2): 57–65.
- Bléton C-A, Fieuzet L (1943) Sur la présence et la biologie au Maroc, d'*Atherigona soccata* Rondani, Diptère parasite du Sorgho cultivé. *Bulletin de la Société d'histoire naturelle d'Afrique du Nord* 34(4): 112–117.
- Bonjean M (1947) L'épidémiologie du paludisme au Maroc. *Bulletin de l'Institut d'Hygiène du Maroc* 7, 119 pp.
- Bonnivard E, Higuët D (1999) Stability of European natural populations of *Drosophila melanogaster* with regard to the P-M system: a buffer zone made up of Q populations. *Journal of evolutionary Biology* 12: 633–647. <https://doi.org/10.1046/j.1420-9101.1999.00063.x>
- Borkent A (2012) World Species of Biting Midges (Diptera: Ceratopogonidae). [Catalog online] [www.inhs.uiuc.edu/research/FLYTREE/CeratopogonidaeCatalog.pdf](http://www.inhs.uiuc.edu/research/FLYTREE/CeratopogonidaeCatalog.pdf)
- Borkent A, Wirth WW (1997) World species of biting midges (Diptera: Ceratopogonidae). *Bulletin of the American Museum of Natural History* №233, 264 pp.
- Bouallam S, Ramdani M (1992) Culicidae de la région de Marrakech, principalement les Anophèles, vecteurs potentiels du Paludisme: répartition, taux d'infestation et lutte anti-larvaire. *Actes de la IV<sup>ème</sup> CILEF. Hydroécologie appliquée, publication particulière 1*: 111–139.
- Bouallam S, Badri A, Maaroufi A, Bouzidi A (1997a) Typologie d'habitats d'*Anopheles* dans une zone urbaine (Diptera: Culicidae). *L'entomologiste* 55(5): 181–190.



- Bouallam S, Badri A, Maaroufi A, Bouzidi A (1997b) *Gambusia affinis* (Poecillidae des Khetarras) comme outil de lutte biologique contre les anophèles vecteurs potentiels du paludisme au Maroc. *Mémoires de Biospéologie* 24: 83–87.
- Bouallam S, Maaroufi A, Bouzidi A, Badri A (1998) Efficacité des traitements chimique et biologique sur les Culicidae: effet létal du téméphos et taux de consommation par *Gambusia affinis*. *Annales de Limnologie* 34: 99–105. <https://doi.org/10.1051/limn/1998010>
- Bouclier-Maurin H (1923) Le Sphinx “*Deilephila lineata*” et ses parasites dans la région de Mascara. *Revue agricole de l’Afrique du Nord* 212: 541–542.
- Boughdad A, Boumezzough A, Taher A (1997) Impact of *Phytomyza orobanchia* Kalt. (Diptera: Agromyzidae) on *Orobancha crenata* Forsk. (Orobanchaceae) in Morocco. In: Sixth Arab Congress of Plant Protection, Beirut, Lebanon (Abstracts Book), Lebanon, 418–418.
- Boulétreau-Merle J, Fouillet P, Terrier O (1992) Clinal and seasonal variations in initial retention capacity of virgin *Drosophila melanogaster* females as a strategy for fitness. *Evolutionary Ecology* 6: 223–242. <https://doi.org/10.1007/BF02214163>
- Boumezzough A (1996) Elements de biologie, d’écologie de *Phytomyza orobanchia* Kalt. (Dipt., Agromyzidae) et Statut de l’infestation d’*Orobancha crenata* Forsk. dans les Régions du Saïss et Rommani. Mémoire de troisième Cycle en Agronomie. Option: Protection des Plantes. Département de Zoologie agricole, École nationale d’Agriculture de Meknès, Maroc, xii + 70 pp, Meknès.
- Boumezzough A, Vaillant F (1986a) Les Diptères Dolichopdidae Hydrophorinae du Maroc. *L’entomologiste* 42(5): 295–300.
- Boumezzough A, Vaillant F (1986b) Quelques diptères Psychodidae, Psychodinae du Grand-Atlas marocain. *L’entomologiste* 424: 237–239.
- Boumezzough A, Thomas AGB (1987) *Chrysopilus tsacasi* Thomas, 1979: morphologie et écologie des larves (Diptera, Rhagionidae). *Bulletin de la Société d’histoire naturelle* 123: 85–87.
- Boumezzough A, Sibold B, Alves-Pires C, Marquez F, Glasser N, Pesson B (2009) Phlebotomine sandflies (Diptera: Psychodidae) of the genus *Sergentomyia* in Marrakech region, Morocco. *Parasitology Research* 104(5): 1027–1033. <https://doi.org/10.1007/s00436-008-1285-9>
- Bounamous A (2010) Biosystematique et caractérisation par la biologie moléculaire des phlébotomes de l’Est algérien. Thèse de Doctorat Es Sciences, Université Mentouri de Constantine, 302 pp.
- Bourquia M, Claire Garros C, Rakotoarivony I, Gardès L, Huber K, Boukhari I, Delécolle JC, Baldet T, Mignotte A, Lhor Y, Khallaayoune K, Balenghien T (2019) Update of the species checklist of *Culicoides* Latreille, 1809 biting midges (Diptera: Ceratopogonidae) of Morocco. *Parasites Vectors* 12: e459. <https://doi.org/10.1186/s13071-019-3720-4>
- Boussaa S (2008) Epidémiologie des leishmanioses dans la région de Marrakech, Maroc: effet de l’urbanisation sur la répartition spatio-temporelle des Phlebotomes et caractérisation moléculaire de leurs populations. Thèse de Doctorat, Université Louis Pasteur Strasbourg I. France, 181 pp.
- Boussaa S, Guernaoui S, Pesson B, Boumezzough A (2005) Seasonal fluctuations of phlebotomine sand fly populations (Diptera: Psychodidae) in the urban area of Marrakech, Morocco. *Acta Tropica* 95(2): 86–91. <https://doi.org/10.1016/j.actatropica.2005.05.002>

- Boussaa S, Pesson B, Boumezzough A (2007) Phlebotomine sandflies (Diptera: Psychodidae) of Marrakech city, Morocco. *Annals of tropical medicine and parasitology* 101(8): 715–724. <https://doi.org/10.1179/136485907X241398>
- Boussaa S, Boumezzough A, Remy PE, Glasser N, Pesson B (2008) Morphological and isoenzymatic differentiation of *Phlebotomus perniciosus* and *Phlebotomus longicuspis* (Diptera: Psychodidae) in Southern Morocco. *Acta Tropica* 106(3): 184–189. <https://doi.org/10.1016/j.actatropica.2008.03.011>
- Boussaa S, Boumezzough A, Sibold B, Alves-Pires C, Morillas Marquez F, Glasser N, Pesson B (2009) Phlebotomine sandflies (Diptera: Psychodidae) of the genus *Sergentomyia* in Marrakech region, Morocco. *Parasitology Research* 104(5): 1027–1033. <https://doi.org/10.1007/s00436-008-1285-9>
- Boussaa S, Neffa M, Pesson B, Boumezzough A (2010) Phlebotomine sandflies (Diptera: Psychodidae) of southern Morocco: Results of entomological surveys along the Marrakech–Ouarzazate and Marrakech–Azilal roads. *Annals of tropical medicine and parasitology* 104(2): 163–170. <https://doi.org/10.1179/136485910X12607012374235>
- Bouzidi A (1989) Recherches Hydrobiologiques sur les cours d'eau des Massifs du Haut Atlas (Maroc): Bio-écologie des Macroinvertébrés et Distribution Spatiale des Peuplements. Thèse d'Etat, Université d'Aix–Marseille III, 190 pp.
- Bouzidi A, Giudicelli J (1986) Contribution à l'étude faunistique et écologique des simulies (Diptera, Simuliidae) du Maroc. I. Une nouvelle espèce du Haut-Atlas: *Simulium (Nevermannia) toubkal* n.sp. *Annales de Limnologie* 22: 41–52. <https://doi.org/10.1051/limn/1986005>
- Bouzidi A, Giudicelli J (1988) Contribution à l'étude faunistique et écologique des simulies (Diptera, Simuliidae) du Maroc. II. *Simulium (Obuchovia) marocanum* n.sp. et les espèces méditerranéennes d'*Obuchovia* Rubzov. *Annales de Limnologie* 23: 185–195. <https://doi.org/10.1051/limn/1987017>
- Brake I (2000) Phylogenetic systematics of the Milichiidae (Diptera, Schizophora). *Entomologica Scandinavica Supplement* 57: 1–120.
- Brake I (2011) World Catalog of the Family Carnidae (Diptera, Schizophora). *Myia* 12: 113–169.
- Brehm A, Harris DJ, Hernandez M, Perez JA, Larruga JM, Pinto FM, Gonzalez AM (2004) Phylogeography of *Drosophila subobscura* from north Atlantic islands inferred from mtDNA A + T rich region sequences. *Molecular Phylogenetics and Evolution* 30: 829–834. <https://doi.org/10.1016/j.ympev.2003.10.018>
- Brémond P (1938), Recherches sur la biologie de *Lixus junci* Boeh., charançon nuisible à la betterave au Maroc. *Revue de Pathologie végétale et d'Entomologie agricole de France* 25: 59–73.
- Brémond P, Rungs C (1938) Observations sur la pyrale dorée (*Pyrausta aurata meridionalis* Stgr.), ravageur de la menthe cultivée au Maroc. *Revue de Pathologie végétale et d'Entomologie agricole de France* 25: 190–194.
- Brunetti EA (1926) New and little-known Cyrtidae (Diptera). *Annals and Magazine of natural History* 18(9): 561–606. <https://doi.org/10.1080/00222932608633552>
- Bruun HH, Jørgensen J, Skuhravá M (2012) Nineteen species of gall midges (Diptera: Cecidomyiidae) new to Denmark. *Entomologiske Meddelelser* 80(2): 87–98.
- Cabrera VM, Gonzalez AM, Larruga JM, Vega C (1983) Linkage disequilibrium in chromosome A of *Drosophila subobscura*. *Genetica* 61: 3–8. <https://doi.org/10.1007/BF00563226>

- Callot J (1940) Sur quelques moustiques du Maroc. Annales de l'Institut Pasteur du Maroc 2: 361–665.
- Callot J, Kremer M, Bailly-Choumara H (1968) Preliminary faunistic note on *Culicoides* (Dipt., Ceratopogonides) of Morocco. Gynandromorphism of *C. circumscriptus* parasited by a Mermis. Bulletin de la Société de pathologie exotique et de ses filiales 61(6): 885–889.
- Callot J, Kremer M, Bailly-Choumara H (1970) Description de *Culicoides coluzzii* n. sp. (Diptera, Ceratopogonidae). Bulletin de la Société zoologique de France 95(4): 709–718.
- Calvo D, Molina JM<sup>a</sup> (2002) First Iberian record of *Drino maroccana* Mesnil, 1951 (Diptera, Tachinidae, Exoristinae), a parasitoid of *Streblote panda* Hübner, [1820] (Lasiocampidae) caterpillars. Graellsia 58(1): 85–86. <https://doi.org/10.3989/graellsia.2002.v58.i1.270>
- Canzoneri S, Meneghini D (1966) *Lispe* Latreille del Mediterraneo e Medio Oriente raccolte da A. Giordani Soika. Bollettino del Museo civico di Storia naturale di Venezia 16[1963]: 109–148.
- Canzoneri S, Meneghini D (1972) Nuovo contributo alla conoscenza del genere *Lispe* Latr. Bollettino del Museo civico di Storia naturale di Venezia 22–23[1969–1970]: 211–214.
- Capy P, Koga A, David JR, Hartl DL (1992) Sequence Analysis of Active mariner Elements in Natural Populations of *Drosophila simulans*. Genetics 130: 499–506. <https://doi.org/10.1093/genetics/130.3.499>
- Capy P, Pla E, David JR (1993) Phenotypic and genetic variability of morphometrical traits in natural populations of *Drosophila melanogaster* and *D. simulans*. I. Geographic variation. Genetics Selection Evolution 25: 517–536. <https://doi.org/10.1186/1297-9686-25-6-517>
- Carles-Tolrá M (1993) New and interesting records of Diptera Acalyptrata from Spain. Part III: Lauxaniidae, Chamaemyiidae, Coelopidae, Dryomyzidae, Sciomyzidae and Sepsidae. Fragmenta Entomologica 25(1): 21–41.
- Carles-Tolrá M (2001) Two new species of *Scenopinus* Latreille from Spain (Diptera, Scenopinidae). Boletín de la Asociación española de Entomología 25(1–2): 35–41.
- Carles-Tolrá M (2002) Catálogo de los Diptera de España, Portugal y Andorra (Insecta). Monografías SEA (Sociedad Entomológica Aragonesa) 8: 1–323. [Zaragoza]
- Carles-Tolrá M (2015) Estudio morfológico de las antenas de *Syllegomydas bueni* Arias y eliminación de *Syllegomydas algericus* Gerstaecker de la fauna europaea (Diptera: Mydidae). Boletín de la Sociedad Entomológica Aragonesa 56: 367–369.
- Carles-Tolrá M (2017) Sobre la identidad de *Syllegomydas cinctus* (Macquart, 1835) y *Syllegomydas bueni* Arias, 1914 (Diptera: Mydidae). Boletín de la Sociedad Entomológica Aragonesa 60: 259–276.
- Carnevale P, Trari B, Izri A, Manguin S (2012) Les cinq piliers de la protection familiale et personnelle de l'homme contre les moustiques vecteurs d'agents pathogènes. Médecine et Santé Tropicales 22: 13–21. <https://doi.org/10.1684/mst.2012.0004>
- Cassar LF, Gatt P, Lanfranco E, Lanfranco S, Mallia A (2005) Smir Lagoon (Northern Morocco) and its surroundings: an environmental management approach. In: Bayed A, Scapini F (Eds) Ecosystèmes côtiers sensibles de la Méditerranée: cas du littoral de Smir. Travaux de l'Institut Scientifique, Rabat. Série générale 4: 65–74.
- Cassar LF, Conrad ES, Gatt P, Lanfranco E, Rolé A (2008) The thermo-Mediterranean biotopes of the Oued Laou basin: a landscape approach. In: Bayed A, Ater M (Eds) Du bassin versant vers la mer: analyse multidisciplinaire pour une gestion durable. Travaux de l'Institut Scientifique, Rabat. Série générale 5: 17–26.

- Catania F, Kauer MO, Daborn PJ, Yen JL, French-Constant RH, Schlötterer C (2004) World-wide survey of an Accord insertion and its association with DDT resistance in *Drosophila melanogaster*. *Molecular Ecology* 13: 2491–2504. <https://doi.org/10.1111/j.1365-294X.2004.02263.x>
- Černý M (2007) Two new species of the genus *Cerodontha* (Diptera: Agromyzidae). *Folia Heyrovskyana* 14(3): 95–104.
- Černý M (2009) New faunistic data on the Agromyzidae (Diptera) from the West Palaearctic Region. *Klapalekiana* 45(1–2): 9–21.
- Černý M (2011) A review of the species of *Cerodontha* Rondani (Diptera: Agromyzidae) of Israel, with a new species of the subgenus *Poemyza* Hendel, 1931. *Israel Journal of Entomology* 40(2010): 117–143.
- Černý M (2012) The fauna of Agromyzidae (Diptera) in the Gemer region (Central Slovakia), with descriptions of three new species from Slovakia. *Časopis Slezského zemského muzea, Opava (A)* 61: 49–76.
- Černý M (2013) Additional records of Agromyzidae (Diptera) from the West Palaearctic Region. *Časopis Slezského zemského muzea, Opava (A)* 62: 281–288.
- Černý M (2019) Additional new records of Agromyzidae (Diptera) from the Palaearctic Region. *Acta Musei Silesiae, Scientiae naturales* 67(2018): 117–137. <https://doi.org/10.2478/cszma-2018-0010>
- Černý M, Merz B (2006) New records of Agromyzidae (Diptera) from the Palaearctic Region. *Mitteilungen der schweizerischen entomologischen Gesellschaft* 79(1): 77–106.
- Černý M, Merz B (2007) New records of Agromyzidae (Diptera) from the West Palaearctic Region, with an updated checklist for Switzerland. *Mitteilungen der schweizerischen entomologischen Gesellschaft* 80(1/2): 107–121.
- Černý M, von Tschirnhaus M (2014) New records of Agromyzidae (Diptera) from the Afrotropical Region, with a checklist. *Acta Musei Silesiae, Scientiae naturales* 63(2): 159–176. <https://doi.org/10.2478/cszma-2014-0017>
- Černý M, von Tschirnhaus M, Winqvist K (2020) First records of Palaearctic Agromyzidae (Diptera) from 40 countries and major islands. *Acta Musei Silesiae, Scientiae naturales* 69(3): 193–229. <https://doi.org/10.2478/cszma-2020-0017>
- Cerretti P (2005) Revision of the West Palaearctic species of the genus *Pales* Robineau-Desvoidy (Diptera: Tachinidae). *Zootaxa* 885: 1–36. <https://doi.org/10.11646/zootaxa.885.1.1>
- Cerretti P, Ziegler J (2004) Chorologic data on tachinid flies from mainland Greece (Diptera, Tachinidae). *Fragmenta entomologica* 36: 275–317.
- Cerretti P, Tschorsnig HP (2007) Two new species of *Siphona* Meigen (Diptera: Tachinidae) from Sardinia and Morocco. *Stuttgarter Beiträge zur Naturkunde, Serie A (Biologie)* 704: 1–7.
- Cerretti P, Tschorsnig HP (2008) A new species of *Plesina* Meigen (Diptera: Tachinidae) from the Mediterranean. *Stuttgarter Beiträge zur Naturkunde A. Neue Serie* 1: 445–450.
- Cerretti P, Tschorsnig HP (2012) Three new species of *Estheria* Robineau-Desvoidy (Diptera: Tachinidae) from the Mediterranean, with a key to the European and Mediterranean species of the genus. *Stuttgarter Beiträge zur Naturkunde A. Neue Serie* 5: 271–286.
- Cerretti P, Badano D, Gisondi S, Lo Giudice L, Pape T (2020) The world woodlouse flies (Diptera: Rhinophoridae). *ZooKeys* 903: 1–130. <https://doi.org/10.3897/zookeys.903.37775>

- Cêtre-sossah C, Baldet T (2004) Mission d'expertise entomologique et virologique, fièvre catarrhale ovine – Maroc. Rapport de mission à l'IAH Hassan II. Montpellier: Cirad, 12 pp.
- Chaker E, Bailly-Choumara H, Kremer M (1979) Sixième contribution à l'étude faunistique des *Culicoides* du Maroc (Diptera, Ceratopogonidae). Bulletin de l'Institut scientifique, Rabat 4: 81–86.
- Chaker E, Bailly-Choumara H, Kremer M (1980) Sixième contribution à l'étude faunistique des *Culicoides* du Maroc (Diptera, Ceratopogonidae). Bulletin de l'Institut scientifique, Rabat 4: 81–86.
- Chakir M, Chafik A, Gibert P, David JR (2002) Phenotypic plasticity of adult size and pigmentation in *Drosophila*: thermosensitive periods during development in two sibling species. Journal of Thermal Biology 27: 61–70. [https://doi.org/10.1016/S0306-4565\(01\)00016-X](https://doi.org/10.1016/S0306-4565(01)00016-X)
- Chakir M, Moreteau B, Capy P, David JR (2007) Phenotypic variability of wild living and laboratory grown *Drosophila*: Consequences of nutritional and thermal heterogeneity in growth condition. Journal of Thermal Biology 32: 1–11. <https://doi.org/10.1016/j.jtherbio.2006.06.001>
- Chakir M, Negoua H, Moreteau B, David JR (2008) Quantitative morphometrical analysis of a North African population of *Drosophila melanogaster*: sexual dimorphism and comparison with European populations. Journal of Genetics 87: 373–382. <https://doi.org/10.1007/s12041-008-0060-0>
- Chakir M, Negoua H, Capy P, David JR (2011) Phenotypic variability and sex dimorphism in *Drosophila* (Diptera: Drosophilidae): comparison of wild and laboratory grown adults of two sympatric cosmopolitan species. Annales de la Société entomologique (N.S.) 47(3–4): 371–383. <https://doi.org/10.1080/00379271.2011.10697731>
- Chakrani F, Capy P, David JR (1993) Developmental temperature and somatic excision rate of mariner transposable element in three natural populations of *Drosophila simulans*. Genetics Selection Evolution 25: 121–132. <https://doi.org/10.1186/1297-9686-25-2-121>
- Chandler PJ (1987) The families Diastatidae and Campichoetidae (Diptera, Drosophiloidea) with a revision of Palearctic and Nepalese species of *Diastata* Meigen. Entomologica Scandinavica 18: 1–50. <https://doi.org/10.1163/187631287X00016>
- Chandler PJ (1994) Fungus gnats of Israel (Diptera: Sciaroidea, excluding Sciaridae). Israel Journal of Entomology 28: 1–100.
- Chandler PJ (2001) The Flat-footed Flies (Diptera: Opetiidae and Platypezidae) of Europe. Fauna entomologica Scandinavica 36: 1–278. <https://doi.org/10.1163/9789047400776>
- Chandler PJ, Ribeiro E (1995) The Sciaroidea (Diptera) of the Atlantic Islands (Canary Islands, Madeira and the Azores). Boletim do Museu Municipal do Funchal (História Natural), Suplemento No. 3, 88 pp.
- Chandler PJ, Gatt P (2000) Fungus Gnats (Diptera: Bolitophilidae, Keroplatidae and Mycetophilidae) from the Maltese islands. Studia dipterologica 7(1): 69–81.
- Chandler PJ, Blasco-Zumeta J (2001) The fungus gnats (Diptera, Bolitophilidae, Keroplatidae and Mycetophilidae) of the Monegros region (Zaragoza, Spain) and five other new European species of *Pyratula* Edwards and *Sciophila* Meigen. Zapateri, Revista aragonesa de Entomología 9: 1–24.
- Chandler PJ, Bechev DN, Caspers N (2005) The Fungus Gnats (Diptera: Bolitophilidae, Diadocidiidae, Ditomyiidae, Keroplatidae and Mycetophilidae) of Greece, its islands and Cyprus. Studia dipterologica 12: 255–314.

- Charlat S, Le Chat L, Merçot H (2003) Characterization of non-cytoplasmic incompatibility inducing *Wolbachia* in two continental African populations of *Drosophila simulans*. *Heredity* 90: 49–55. <https://doi.org/10.1038/sj.hdy.6800177>
- Charrier H (1924) Les Moustiques de la région de Tanger. *Bulletin de la Société de pathologie exotique et de ses filiales* 17: 570–572.
- Charrier H (1927) Note préliminaire sur les mouches de la région de Tanger. *Bulletin de la Société de pathologie exotique* 20(7): 619–622.
- Chillasse L, Dakki M (2004) Potentialités et statuts de conservation des zones humides du Moyen-Atlas (Maroc), avec référence aux influences de la sécheresse. *Sécheresse* №4, 15: 337–345.
- Chlaida M (1997) Étude hydrobiologique des berges de la retenue du barrage Al Massira (sud-est de Casablanca). Physicochimie, structure des peuplements des macroinvertébrés, dynamique des populations culicidiennes (Moustiques) et cartographie de leurs gîtes larvaires. Thèse de Doctorat d'Etat, Université Hassan II, Mohammedia, Casablanca, 216 pp.
- Chlaida M, Bouzidi A (1995) Contribution à l'étude des Culicidés du Maroc: Dynamique et cartographie écologique de quelques espèces au sein de la retenue de barrage Al Massira (Sud de Settat). *Bulletin de l'Institut scientifique, Rabat* 19: 83–92.
- Chvála M (1969) Revision of Palaearctic species of the genus *Tachydromia* Meigen (= *Tachista* Loew) (Diptera, Empididae). *Acta Entomologica Musei Nationalis Pragae* 38: 415–524.
- Chvála M (1981) Empididae (Insecta: Diptera) from Southern Spain, with Descriptions of Twenty New Species and Notes on Spanish Fauna. *Steenstrupia* 7(6): 113–177.
- Chvála M (2008) Monograph of the genus *Hilara* Meigen (Diptera: Empididae) of the Mediterranean region. *Studia dipterologica, Supplement* 15: 1–138.
- Chvála M, Lyneborg L (1970) A revision of Palaearctic Tabanidae (Diptera) described by J.C. Fabricius. *Journal of Medical Entomology* 7: 543–555. <https://doi.org/10.1093/jmedent/7.5.543>
- Chvála M, Lyneborg L, Moucha J (1972) The horse flies of Europe (Diptera, Tabanidae). *Entomological Society of Copenhagen, Copenhagen*, 499 pp.
- Chvála M, Kovalev VG (1989) Family Hybotidae. Vol. 6. In: Soós Á, Papp L (Eds) *Catalogue of Palaearctic Diptera (Therevidae – Empididae)*. Akadémiai Kiadó, Budapest, 174–227. [435 pp]
- Chvála M, Wagner R (1989) Family Empididae. In: Soós Á, Papp L (Eds) *Catalogue of Palaearctic Diptera*. Vol. 6: Therevidae – Empididae. Akadémiai Kiadó, Budapest, 228–336. [435 pp]
- Claußen C (1989a) Das bisher unbeschriebene Männchen von *Cheilosia rodgersi* Wainwright aus Südspanien (Diptera, Syrphidae). *Entomologische Zeitung* 99(19): 283–288.
- Claußen C (1989b) Syrphiden aus Marokko (Diptera, Syrphidae). *Entomofauna* 10(24): 357–375.
- Claußen C, Hauser M (1990) Neue Syrphidenvorkommen aus Marokko und Tunesien (Diptera, Syrphidae). *Entomofauna* 11(25): 433–438.
- Claußen C, Speight MCD (2007) Names of uncertain application and some previously unpublished synonyms, in the European *Cheilosia* fauna (Diptera, Syrphidae). *Volucella* 8: 73–86.
- Clements DK (2000) *Myopa vaulogerii* (Séguy) a synonym of *M. minor* Strobl, with a redescription (Dipt., Conopidae). *Entomologist's Monthly Magazine* 136: 235–240.



- Clergue-Gazeau M, Lek S, Lek S (1991) Les simulies d'Afrique du Nord: nouvelles données sur la répartition de la faune du Maroc et biogéographie des espèces maghrébines (Diptera, Simuliidae). *Revue d'Hydrobiologie Tropicale* 24: 47–59.
- Coetzer JAW, Guthrie AJ (2004) African horse sickness. In: Coetzer JAW, Tustin RC (Eds) *Infectious diseases of livestock*. 2<sup>nd</sup> edn. Oxford University Press, Cape Town, 1231–1246.
- Colacicco-Mayhugh MG, Masuoka PM, Grieco JP (2010) Ecological niche model of *Phlebotomus alexandri* and *P. papatasi* (Diptera: Psychodidae) in the Middle East. *International Journal of Health Geographics* 9: e2. <https://doi.org/10.1186/1476-072X-9-2>
- Coliado JG (1929) Sirfidos de Marruecos del Musco de Madrid. *Memorias de la Real Sociedad Española de Historia Natural*, XII.
- Collin JE (2009) A New species of *Rhamphomyia* Meigen (Diptera: Empididae) from Morocco. *Proceedings of the Royal Entomological Society of London. Series B, Taxonomy* 22(3–4): 57–58. <https://doi.org/10.1111/j.1365-3113.1953.tb00057.x>
- Constanti M, Pascual M, Ribo G, Prevosti A (1986) Sexual isolation between populations of *Drosophila subobscura*. I. European strains. *Genetica Iberica* 38: 213–222.
- Cooper BE, O'Hara JE (1996) *Diptera types in the Canadian National Collection of Insects. Part 4 Tachinidae*, 94 pp.
- Cornet M, Brunhes J (1994) Révision des espèces de *Culicoides* apparentées à *C. schultzei* (Enderlein, 1908) dans la région afrotropicale (Diptera, Ceratopogonidae). *Bulletin de la Société entomologique de France* 99(2): 149–164. <https://doi.org/10.3406/bsef.1994.17053>
- Costa A (1857) Contribuzione alla fauna ditterologica italiana. *Giambattista Vico* 2: 438–460.
- Costa R, Peixoto AA, Barbujani G, Kyriacou CP (1992) A latitudinal cline in a *Drosophila* clock gene. *Proceedings of the Royal Entomological Society of London, Series B* 250: 43–49. <https://doi.org/10.1098/rspb.1992.0128>
- Coupland JB, Barker GM (2004) Flies as predators and parasitoids of terrestrial Gastropods, with emphasis on Phoridae, Calliphoridae, Sarcophagidae, Muscidae and Fanniidae. In: Barker GM (Ed.) *Natural enemies of terrestrial Molluscs*. CABI Publishing, CAB International, Wallingford, 85–158. <https://doi.org/10.1079/9780851993195.0085>
- Cresson ET (1939) Description of a new genus and ten new species of Ephydriidae, with a discussion of the species of the genus *Discomyza* (Diptera). *Notulae Naturae* 21: 1–12.
- Croset H, Rioux JA, Maistre M, Bayar N (1978) Les Phlébotomes de Tunisie (Diptera, Phlebotomidae). Mise au point systématique, chorologique et éthologique. *Annales de Parasitologie (Paris)* 53(6): 711–749. <https://doi.org/10.1051/parasite/1978536711>
- Crosskey RW (1964) Subgeneric assignment and synonymy of some southern Palearctic species of *Simulium* (Diptera: Simuliidae). *Annals and Magazine of natural History, Ser.* 13(7): 665–672. <https://doi.org/10.1080/00222936408651513>
- Cumming JM, Cooper BE (1992) A revision of the Nearctic species of the Tachydromiine fly genus *Stilpon* Loew (Diptera: Empidoidea). *The Canadian Entomologist* 124(6): 951–998. <https://doi.org/10.4039/Ent124951-6>
- Czerny L, Strobl G (1909) Spanische Dipteren. III. Beitrag. *Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien* 59: 121–301.
- Dahl RG (1964) Some Ephydriidae and Canaceidae (Dipt., Brachycera) from Morocco and the Spanish Sahara. *Notulae entomologicae* 44(3): 101–104.

- Dakki M (1997) Faune aquatique continentale. In: Etude Nationale sur la Biodiversité. Ministère de l'Environnement-PNUE. Maroc, 117 pp.
- Dakki M, Himmi O (2008) Bases Stratégiques pour la Conservation de la Biodiversité des Eaux Douces du Bassin du Sebou (Maroc). Etude menée grâce à un microfinancement du Programme WWF/MedPo 'ACROSS THEWATERS' (phase 5) (projet réf. 9E0647. MOR.01.P.06) 59 pp. Avec la contribution de Abdelhamid Azeroual (poissons), Boutaina Belqat (insectes diptères), Sidi Imad Cherkaoui (oiseaux nicheurs), Majida El Alami El Moutaouakil (insectes trichoptères, éphéméroptères et plécoptères), Rhimou El Hamoumi (amphibiens & reptiles), Fatima Fadil (crustacés des eaux superficielles), Soumaya Hammada (flore), Oumnia Himmi (annélides hirudinées, insectes odonates et hétéroptères), Kawtar Kettani (insectes diptères), Mohamed Messouli (crustacés phréatiques, oligochètes), Bennas Nard (insectes coléoptères), Abdeljebbar Qninba (oiseaux hivernants), Mohamed Ghamizi (insectes mollusques), Ahmed Yahyaoui (poissons).
- Dakkok A, Cabaret J, Dudbib M (1978) Etude du cycle des hypodermes et des facteurs de risques pour les bovins dans la région de Sidi-Slimane (Maroc). Utilisation pour l'établissement d'une prophylaxie [*Hypoderma lineatum*, *Hypoderma bovis*, hypodermose bovine, varron; traitement]. Recueil de Médecine Vétérinaire 154: 753–760.
- Daugeron C (1997) Découverte du sous-genre *Xanthempis* Bezzi en Afrique du Nord et description de trois espèces nouvelles (Diptera: Empididae). Annales de la Société entomologique de France 33(2): 155–164.
- Daugeron C (2000) The subgenus *Xanthempis*: new species and taxonomical data (Diptera: Empididae). Annales de la Société entomologique de France 36: 371–388.
- Daugeron C (2009) Systematics of the Euro-Mediterranean *Empis* (*Kritempis*) (Diptera: Empididae: Empidinae). Zootaxa 2318: 531–544. <https://doi.org/10.11646/zootaxa.2318.1.21>
- David JR, Bocquet C (1973) Sur certains caractères quantitatifs des souches de *Drosophila melanogaster* provenant du Sud du Maroc. Comptes Rendus de l'Académie des Sciences Paris 277: 877–890.
- David JR, Merçot H, Capy P, McEvey SE, van Herewee J (1986) Alcohol tolerance and ADH gene frequencies in European and African populations of *Drosophila melanogaster*. Genetics Selection Evolution 18: 405–416. <https://doi.org/10.1186/1297-9686-18-4-405>
- David JR, Gibert P, Moreteau B, Gilchrist GW, Huey RB (2003) The fly that came in from the cold: geographic variation of recovery time from low temperature exposure in *Drosophila subobscura*. Functional Ecology 17: 425–430. <https://doi.org/10.1046/j.1365-2435.2003.00750.x>
- Dawah HA (2011) Some Tachinidae (Diptera: Calyptrata) from South Western Saudi Arabia. Journal of Jazan University, Applied Sciences Branch 1(1): 28–38.
- Dawah HA, Abdullah MA (2006) New Records of Chloropidae (Diptera) from Southwest Saudi Arabia with some Biological Information, World-wide Geographical Distribution and Taxonomic Features. Saudi Journal of biological Sciences 13(1): 24–34 [English], 132–192 [Arabic].
- Dawah HA, Abdullah MA, Kamran Ahmad S (2019) An Overview of the Calliphoridae (Diptera) of Saudi Arabia with New Records and Updated List of Species. Journal of the Entomological Research Society 21(1): 65–93.
- Dawah HA, Syed Kamran A, Abdullah MA, Grichanov IYa (2020) The family Dolichopodidae (Diptera) of the Arabian Peninsula: identification key, an updated list of species and new



- records from Saudi Arabia. *Journal of Natural History* 54: 21–22. <https://doi.org/10.1080/00222933.2020.1800118>
- Deeming JC, Al-Dhafer HM (2012) Chloropidae from the Arabian Peninsula (Diptera: Cyclorrhapha). *Zoology in the Middle East* 58: 3–88. <https://doi.org/10.1080/09397140.2012.10648977>
- De Jong H (1993) The phylogeny of the *Nephrotoma flavescens* species group (Diptera: Tipulidae). *Tijdschrift voor Entomologie* 136: 235–256.
- De Jong H (1994a) The phylogeny of the *Tipula (Acutipula) maxima* species group, with notes on its distribution (Diptera: Tipulidae). *Entomologica Scandinavica* 24: 433–457. <https://doi.org/10.1163/187631293X00208>
- De Jong H (1994b) The phylogeny of the subgenus *Tipula (Savtshenkia)* (Diptera: Tipulidae), with special reference to the western Mediterranean fauna. *Tijdschrift voor Entomologie* 137: 271–323.
- De Jong H (1995) The phylogeny of the *Tipula (Lunatipula) bullata* and *falcata* species groups (Diptera: Tipulidae). *Tijdschrift voor Entomologie* 138: 245–267.
- De Jong H (1998) In search of historical biogeographic patterns in the western Mediterranean terrestrial fauna. *Biological Journal of the Linnean Society* 65: 99–164. <https://doi.org/10.1006/bijl.1998.0239>
- De Jong H, Adghir A, Bosch EJ, Kettani K (2021) Taxonomy of *Nephrotoma guestfalica* (Westhoff, 1879) (Diptera, Tipulidae), with the description of a new subspecies from Morocco. *Tijdschrift voor Entomologie* 163: 31–45. <https://doi.org/10.1163/22119434-20192086>
- Delanoë P (1917) Contribution à l'étude du paludisme au Maroc Occidental. *Bulletin de la Société de pathologie exotique* 10: 586–611.
- Delanoë P (1922) Myiases du bétail du cercle des Doukkala causées par les larves d'une mouche sarcophile *Wohlfahrtia magnifica* Schiner, 1862. *Bulletin de la Société des sciences naturelles de Maroc* 2: 132–136.
- De Lépiney J (1930) Contribution à l'étude du complexe biologique de *Lymantria dispar*. *Mémoires de la Société des sciences naturelles du Maroc* 23: 100 pp.
- De Lépiney J, Mimeur JM (1932) Notes d'entomologie agricole et forestière du Maroc. *Mémoires de la Société des sciences naturelles du Maroc* 31: [III +] 195 pp. [Rabat, Paris, London]
- De Meyer M (2000) Systematic revision of the subgenus *Ceratitis* MacLeay s.s. (Diptera, Tephritidae). *Zoological Journal of the Linnaean Society* 128: 439–467. <https://doi.org/10.1111/j.1096-3642.2000.tb01523.x>
- Depaquit J, Hadj-Henni L, Bounamous A, Strutz S, Boussaa S, Morillas-Marquez F, Pesson B, Gállego M, Delécolle JC, Afonso MO, Alves-Pires C, Capela RA, Couloux A, Léger N (2015) Mitochondrial DNA Intraspecific Variability in *Sergentomyia minuta* (Diptera: Psychodidae). *Journal of Medical Entomology* 52(5): 819–828. <https://doi.org/10.1093/jme/tjv075>
- De Zulueta J, Ramsdale CD, Cianchi R, Bullini L, Coluzzi M (1983) Observations on the taxonomic status of *Anopheles sicaulti*. *Parasitologia* 23: 73–92.
- Dieringer D, Nolte V, Schlötterer C (2005) Population structure in African *Drosophila melanogaster* revealed by microsatellite analysis. *Molecular Ecology* 14: 563–573. <https://doi.org/10.1111/j.1365-294X.2004.02422.x>

- Dike MC (1990) Two new species of *Atherigona* from Nigeria with a key for the identification of Afrotropical species of the subgenus *Acritochaeta* (Diptera: Muscidae). *Systematic Entomology* 15(3): 297–303. <https://doi.org/10.1111/j.1365-3113.1990.tb00065.x>
- Dikow T (2017) Mydidae. Asiloid Flies, deciphering their diversity and evolutionary history. Smithsonian, National Museum of natural History. <http://www.asiloidflies.si.edu> [accessed May 2017]
- Dils J (2008) A new species of *Chalcochiton* (Diptera: Bombyliidae) from Morocco. *Phegea* 36(1): 31–33.
- Dils J (2012) A new species of *Thyridanthrax* from Morocco (Diptera: Bombyliidae). *Phegea* 40(1a): 5–6.
- Dils J (2013) Remarks on *Conophorus heteropilosus* (Diptera: Bombyliidae). *Phegea* 41(3): 61–62. [ISSN 0771-5277] <https://doi.org/10.1016/j.biologicals.2012.07.008>
- Dils J (2017) A new species of *Chalcochiton* (Diptera: Bombyliidae) from Morocco. *Phegea* 45(3): 75–78.
- Dils J, Özbek H (2006) Contribution to the Knowledge of the Bombyliidae of Turkey (Diptera). *Linzer biologische Beiträge* 38(1): 455–505.
- Dirickx HG (1994) Atlas des Diptères syrphides de la région méditerranéenne. Doc. de Travail, Institut royal des sciences naturelles de Belgique 75: 1–314.
- Disney RHL (1984) The holotype of *Megaselia minor* (Zett.) (Dipt., Phoridae) and two new synonyms. *Entomologist's Monthly Magazine* 120: 239–240.
- Djellab S, Van Eck A, Samraoui B (2013) A survey of the hoverflies of northeastern Algeria (Diptera: Syrphidae). *Egyptian Journal of Biology* 15: 1–12. <https://doi.org/10.4314/ejb.v15i1.1>
- Dominiak P (2012) Biting midges of the genus *Dasyhelea* Kieffer (Diptera: Ceratopogonidae) in Poland. *Polish Journal of Entomology* 81(3): 211–304. <https://doi.org/10.2478/v10200-012-0009-8>
- Dousti AF, Hayat R (2006) A Catalogue of the Syrphidae (Insecta: Diptera) of Iran. *Journal of the Entomological Research Society* 8(3): 5–38.
- Dowling C (1983) A description of Two New species of Tanypodinae (Diptera, Chironomidae) from North Africa. *Memories of American Entomological Society* 34: 89–94.
- Dowling C (1987) A description of two new species of the genus *Thienemannimyia* (Diptera, Chironomidae) from North Africa. *Entomologica scandinavica Supplements* 29: 157–160.
- Draber-Mońko A (2011) State of knowledge of the tachinid fauna of Eastern Asia, with new data from North Korea. Part IE. Tachininae. *Fragmenta Faunistica* 54(2): 157–177. <https://doi.org/10.3161/00159301FF2011.54.2.157>
- Driauach O, Belqat B (2015) A new species of the genus *Baeoura* from Morocco, with a key to the West Palaearctic species (Diptera, Tipuloidea, Limoniidae). *ZooKeys* 532: 99–105. <https://doi.org/10.3897/zookeys.532.5994>
- Driauach O, Belqat B (2016) Additions to the Limoniidae and Pediciidae fauna of Morocco, with an updated checklist (Diptera, Tipuloidea). *ZooKeys* 563: 129–146. <https://doi.org/10.3897/zookeys.563.7384>
- Driauach O, Belqat B, De Jong H (2013) A First Checklist of the short-palped Crane flies (Diptera: Limoniidae, Pediciidae) of Morocco. *Boletín de la Sociedad Entomológica Aragonesa* 53: 187–190.

- Driauach O, Krzemiński E, Belqat B (2015) Genus *Trichocera* in Morocco: first records from Africa and a new species (Diptera: Trichoceridae). *Zootaxa* 4059(1): 181–190. <https://doi.org/10.11646/zootaxa.4059.1.10>
- Droz B, Haenni JP (2011) Une mouche pupipare nouvelle pour la faune de Suisse (Diptera, Hippoboscidae). *Entomologica Helvetica* 4: 59–63.
- Dsouli N (2009) Contribution à la phylogénie du genre *Stomoxys* (Diptera, Muscidae) et à la phylogéographie de *Stomoxys calcitrans* (L., 1758). Université Montpellier III–PAUL VALÉRY. Arts et Lettres, Langues et Sciences Humaines et Sociales. Département de Biologie- Écologie- Environnement, 157 pp.
- Duda O (1932–1933) 61. Chloropidae. In: Lindner E (Ed.) *Die Fliegen der paläarktischen Region VI*, 1: [iv +] 248 pp. [pl. i–iii] [p. 49–248 and plates were published in 1933] [E. Schweizerbart, Stuttgart]
- Dufour C (2003) Descriptions of four new species of Tipulidae from the Alpes Maritimes in southern France (Diptera, Tipulidae). *Bulletin de la Société neuchâteloise des sciences naturelles* 126: 69–80.
- Duisit MJ (1960) Localisations nouvelles de Stratiomyiidae au Maroc. *Société des sciences naturelles et physiques du Maroc* №7, 121.
- Dupuis C (1952) Contributions à l'étude des Phasiinae cimicophages. XIV. Hôtes inédits et localités nouvelles. *Annales de Parasitologie humaine et comparée* 27: 332–338. <https://doi.org/10.1051/parasite/1952271329>
- Dupuis C (1953) Contribution à l'étude des Phasiinae cimicophages (Diptera Larvaevoridae). XV. Données sur les *Leucostomatina* et, en particulier, *Leucostoma analis* (Meigen) s. str. *Annales de Parasitologie humaine et comparée* 28: 64–97. <https://doi.org/10.1051/parasite/1953281064>
- Dupuis C (1963) Essai monographique sur les Phasiinae. *Mémoires du Muséum national d'histoire naturelle. Nouvelle série, série A. Zoologie* 26: 1–461.
- Du Toit RM (1944) The transmission of bluetongue and horse sickness by *Culicoides*. *Onderstepoort Journal of Veterinary* 19: 7–16.
- Ebejer MJ (1998a) A Review of the Palaearctic Species of *Aphaniosoma* Becker (Diptera, Chyromyidae), with Descriptions of New Species and a Key for the Identification of Adults. *Mitteilungen Museum für Naturkunde Berliner Deutsche entomologische Zeitschrift* 45(2): 191–230. <https://doi.org/10.1002/mmnd.4810450208>
- Ebejer MJ (1998b) A new species of *Gymnochiromyia* Hendel (Diptera: Chyromyidae) from the Mediterranean, with notes, lectotype designations and a key to the species from the West Palaearctic. *Studia dipterologica* 5(1): 19–29.
- Ebejer MJ (2002) Fauna Europaea. Diptera, Chyromyidae. <http://www.faunaeur.org>
- Ebejer MJ (2015) The picture-winged flies and related families (Diptera, Tephritoidea) of the Maltese Islands. *Bulletin of the Entomological Society of Malta* 7: 73–91.
- Ebejer MJ (2016a) The first record of the genus *Melanochthiphila* Frey (Diptera: Chamaemyiidae) from the Palaearctic, and new data on other Chamaemyiidae from Morocco. *Studia dipterologica* 22(1) 2015: 111–120.
- Ebejer MJ (2016b) The Moroccan species of Chyromyidae (Diptera) with descriptions of five new species of *Aphaniosoma* Becker. *Zootaxa* 4208(3): 221–236. <https://doi.org/10.11646/zootaxa.4208.3.2>

- Ebejer MJ (2018) Recent additions to the Chyromyidae of Morocco with description of a new species of *Gymnochiromyia* Hendel (Diptera: Acalyptrata). *Entomologist's Monthly Magazine* 154: 207–212. <https://doi.org/10.31184/M00138908.1543.3940>
- Ebejer MJ (2019a) Taxonomic notes on West Palaearctic species of *Lauxania* Latreille, *Sapromyza* Fallén, *Calliopum* Strand and *Minettia* Robineau-Desvoidy, with a description of a new species of *Minettia* (Diptera, Acalyptrata: Lauxaniidae) from Morocco. *Zootaxa* 4543(1): 037–051. <https://doi.org/10.11646/zootaxa.4543.1.2>
- Ebejer MJ (2019b) A new species of *Micropeza* Meigen from Morocco and a provisional key to the West Palaearctic species (Diptera: Acalyptrata, Micropezidae). *Entomologist's Monthly Magazine* 155(2): 71–76. <https://doi.org/10.31184/M00138908.1552.3977>
- Ebejer JM, Bensusan K (2010) Hoverflies (Diptera, Syrphidae) recently encountered on Gibraltar, with two new species for Iberia. *Dipterists Digest* 17: 123–139.
- Ebejer MJ, Kettani K (2016) An overview of the Chloropidae (Diptera) of Morocco with new records, description of a new species of *Pselaphia* (Becker) and an updated list of species. *Entomologist's Monthly Magazine* 152(4): 225–244.
- Ebejer MJ, Kettani K (2019a) A review of the Moroccan species of Lauxaniidae (Diptera: Acalyptrata). *Entomologist's Monthly Magazine* 155(3): 139–150. <https://doi.org/10.31184/M00138908.1553.3986>
- Ebejer MJ, Kettani K (2019b) The Pipunculidae, a neglected family of Diptera (Insecta) in Morocco. *Dipterists Digest* 26(1): 13–18.
- Ebejer MJ, Kettani K, Gatt P (2019) First records of families and species of Diptera (Insecta) from Morocco. *Boletín de la Sociedad Entomológica Aragonesa* 64: 143–153.
- Edwards FW (1921) New species of Palaearctic Simuliidae in the British Museum (Diptera Nematocera). *Annals and Magazine of natural History* 9(7): 141–143. <https://doi.org/10.1080/00222932108632496>
- Efetov KA, Tarmann GM (1999) Forester moths. The genera *Theresimima* Strand, 1917, *Rhagades* Wallengren, 1863, *Jordanita* Verity, 1946, and *Adscita* Retzius, 1783 (Lepidoptera: Zygaenidae, Procridinae). Steenstrupia (Apollo Books), 192 pp.
- Ehteshamnia N, Khaghaninia S, Farshbaf Pourabad R (2010) Some Hoverflies of Subfamily Syrphinae of Qurigol fauna in east Azerbaijan province Iran (Diptera: Syrphidae). *Munis Entomology & Zoology* 5(2): 449–505.
- Eiroa E (1990) Nuevos datos sobre la distribucion de tipulidos en Marruecos. *Nouvelle Revue d'Entomologie (N.S.)* 7: 259–261.
- Eiroa E (2000) Primera cita de *Dicranoptycha fuscescens* (Schummel, 1829) para Marruecos (Diptera: Limoniidae). *Boletín de la Asociación española de Entomología* 24: 204.
- Elaini R, Mazih A (2018) Current status and future prospects of *Ceratitis capitata* Wiedemann (Diptera: Tephritidae) control in Morocco. *Journal of Entomology* 15(1): 47–55. <https://doi.org/10.3923/je.2018.47.55>
- Elaini R, Mazih A, Alonso Valiente M, Rahal Y (2019) Domestication and mass rearing of the Mediterranean fruit fly, *Ceratitis capitata* (Diptera: Tephritidae) from Argan forest. *Revue marocaine des Sciences Agronomiques et Vétérinaires* 7(1): 88–94.
- El Barmaki S (1993) Étude hydrobiologique de quelques mares temporaires et permanentes de la région de Casablanca. Dynamique et cycles biologiques des espèces culicidiennes. Thèse de Doctorat de 3<sup>ème</sup> cycle, Université Hassan II, Casablanca, 141 pp.

- El Bouhssini A, Amri A, Hatchett JH (1988) Wheat genes conditioning resistance to the Hessian fly (Diptera: Cecidomyiidae) in Morocco. *Journal of Economic Entomology* 81: 709–712. <https://doi.org/10.1093/jee/81.2.709>
- El Bouhssini M, Amri A, Hatchett JH, Lhaloui S (1992a) New sources of resistance in wheat to Hessian fly, *Mayetiola destructor* (Say) (Diptera: Cecidomyiidae) in Morocco. *Al Awamia* 77: 89–107.
- El Bouhssini M, Hatchett JH, Lhaloui S, Amri A (1992b) Suppression of Hessian fly (Diptera: Cecidomyiidae) populations in Morocco by the use of resistant wheat cultivars. *Al Awamia* 77: 129–145.
- El Bouhssini M, Hatchett JH, Lhaloui S (1996a) Larval Survival on Wheat Plants carrying Resistance Genes to Hessian fly (Diptera: Cecidomyiidae) in Morocco. *Arab Journal for Plant Protection* 13(2): 103–105.
- El Bouhssini M, Lhaloui S, Amri A, Jlibene M, Hatchett JH, Nssarellah N, Nachitt M (1996b) Wheat genetic control of Hessian fly (Diptera: Cecidomyiidae) in Morocco. *Field Crops Research* 45: 111–114. [https://doi.org/10.1016/0378-4290\(95\)00063-1](https://doi.org/10.1016/0378-4290(95)00063-1)
- El Bouhssini M, Lhaloui S, Hatchett JH, Naber N (1997) Nouveaux gènes de résistance efficaces contre la mouche de Hesse (Diptera: Cecidomyiidae) au Maroc. *Al Awamia* 96: 55–63.
- El Bouhssini M, Benlhabib O, Nachit MM, Houari A, Bentika A, Nsarellah N, Lhaloui S (1998) Identification in *Aegilops* species of resistant sources to Hessian fly (Diptera: Cecidomyiidae) in Morocco. *Genetic Resources and Crop Evolution* 45: 343–345. <https://doi.org/10.1023/A:1008675029389>
- El Bouhssini M, Nsarellah N, Nachit MM, Bentika A, Benlhabib O, Lhaloui S (1999) First source of resistance in durum wheat to Hessian fly (Diptera: Cecidomyiidae) in Morocco. *Genetic Resources and Crop Evolution* 46: 107–109. <https://doi.org/10.1023/A:1008615515704>
- El Haouari H, Kettani K (2014) Premier inventaire des Tabanidae (Diptera: Tabanidae) du Rif (Nord du Maroc): Bulletin de l'Institut scientifique, Rabat 36: 77–88.
- El Haouari H, Kettani K, Ghamizi M (2014) Les Tabanidae (Insecta: Diptera) du Maroc. *Bulletin de Société zoologique de France* 139(1–4): 91–105.
- El Harym Y, Belqat B (2017) First checklist of the fruit flies of Morocco, including new records (Diptera, Tephritidae). *ZooKeys* 702: 137–171. <https://doi.org/10.3897/zookeys.702.13368>
- El Harym Y, Belqat B, Korneyev VA (2020) The fruit flies of Morocco: new records of the Tephritinae (Diptera, Tephritidae). *Zoodyversity* 54(6): 439–452. <https://doi.org/10.15407/zoo2020.06.439>
- El Harym Y, Belqat B, Korneyev VA (2021) A new species of *Terellia* (Diptera, Tephritidae) from Morocco. *Zoodyversity* 55(3): 233–238. <https://doi.org/10.15407/zoo2021.03.233>
- El Hassani A, Messaoudi J (1986) Les ravageurs des cônes et graines de conifères et leur distribution au Maroc. In: Roques A (Ed.) *Proceedings of the 2<sup>nd</sup> Conference of the Cone and seed insects working party S2.07–01*, IUFR (= International Union of Forestry Research Organisations), Briançon, France, September 3–5, 1986: 5–14; Station de Zoologie Forestière, I.N.R.A. (Institut National de la Recherche Agronomique), Ardon, Olivet (France), 5–14.
- El Hawagry MSA (2011) Catalogue of Superfamily Asiloidea (Diptera: Brachycera) of Egypt. *Efflatoun's Journal of Entomology*, 195 pp.

- El Hawagry MSA, Dhafer H (2015) Five new records of beeflies (Bombyliidae, Diptera) from Saudi Arabia with zoogeographical remarks. *ZooKeys* 489: 125–133. <https://doi.org/10.3897/zookeys.489.8794>
- El Hawagry MSA, El-Azab SA (2019) Catalog of the Calliphoridae, Rhiniidae, and Sarcophagidae of Egypt (Diptera: Oestroidea). *Egyptian Journal of Biological Pest Control* 29(15): 1–50. <https://doi.org/10.1186/s41938-019-0118-8>
- El Hawagry MSA, Gilbert F (2019) Catalogue of the Syrphidae of Egypt (Diptera). *Zootaxa* 4577(2): 201–248. <https://doi.org/10.11646/zootaxa.4577.2.1>
- El Hawagry M, Soliman AM, Al Dhafer HM (2021) The family Conopidae (Diptera) in Egypt and Saudi Arabia. *Biodiversity Data Journal* 9: e60287. <https://doi.org/10.3897/BDJ.9.e60287>
- El Imrani K, Kettani K (2012) Dynamique de la structure des communautés benthiques après des perturbations hydrologiques et morphologiques dans l’oued Ez-Zarka (bassin Martil, Rif occidental, Maroc). *Méditerranée* 118: 7–17. <https://doi.org/10.4000/mediterranee.6166>
- El Joubari M, Louah A, Himmi O (2014) Les moustiques (Diptera, Culicidae) des marais de Smir (nord-ouest du Maroc): inventaire et biotypologie. *Bulletin de la Société de pathologie exotique* 107(1): 48–59. <https://doi.org/10.1007/s13149-014-0327-4>
- El Joubari M, Faraj C, Louah A, Himmi O (2015a) Sensibilité des moustiques *Anopheles labranchiae*, *Culex pipiens*, *Ochlerotatus detritus* et *Ochlerotatus caspius* de la région de Smir (Nord-Ouest du Maroc) aux organophosphorés utilisés en santé publique. *Environnement, Risques & Santé* 14(1): 72–79.
- El Joubari M, Hajji K, Himmi O, El Alami M, El Agbani MA, Louah A (2015b) Etude des Macroinvertébrés (Gastéropodes, Diptères et Odonates) des marais de Smir-Restinga (Nord-Ouest du Maroc). *Entomologie faunistique* 68: 17–31.
- El Kaim B (1972) Contribution à l’étude écologique et biologique des Culicides: *Aedes detritus* Haliday et *Aedes caspius* Pallas. *Bulletin de la Société des sciences naturelles et physiques du Maroc* 52(3–4): 197–204.
- El Mezdi Z, Giudicelli J (1985) Etude d’un écosystème limnique peu connu: Les Khettaras de la région de Marrakech (Maroc), Habitats et Peuplements. *Sciences de l’eau* 6(3): 281–297.
- El Ouali Lalami A (2012) Surveillance et caractérisation écologique, biologique et génétique des Culicides vecteurs des maladies parasitaires à Fès. Thèse de Doctorat Nationale, Université Sidi Mohammed Ben Abdellah, Fès, 158 pp.
- El Ouali Lalami A, Hindi T, Azzouzi A, Elghadraoui L, Maniar S, Faraj C, Adlaoui E, Ameur I, Ibnsouda Koraichi S (2010a) Inventaire et répartition saisonnière des Culicidae dans le centre du Maroc. *Entomologie faunistique* 62(4): 131–138.
- El Ouali Lalami A, El Hilali O, Benlamlih M, Merzouki M, Raiss N, Ibnsouda Koraichi S, Himmi O (2010b) Etude entomologique, physicochimique et bactériologique des gîtes larvaires de localités à risque potentiel pour le paludisme dans la ville de Fès. *Bulletin de l’Institut scientifique, Rabat* 32(2): 119–127.
- El Ouazzani NH, Heller K, Kettani K (2019) The first checklist of Black Fungus Gnats (Diptera: Sciaridae) of Morocco. *Annales de la Société entomologique de France (N.S.)* 55(3): 274–290. <https://doi.org/10.1080/00379271.2019.1570826>
- El Yousfi M (1994) La santé de cèdre de l’Atlas au Maroc. *Annales de la Recherche forestière au Maroc* 27: 593–611.



- Engel EO (1938) 25. Bombyliidae. In: Lindner E (Ed.) Die Fliegen der paläarktischen Region 4(3): 619 pp. [+ 15 pls]
- Evenhuis NL (2002) Catalog of the Mythicomyiidae of the World (Insecta: Diptera). Bishop Museum Bulletin in Entomology 10, Bishop Museum Press Honolulu, 85 pp.
- Evenhuis NL (2006) Catalog of Keroplatidae of the World (Insecta: Diptera). Bishop Museum Bulletin in Entomology 13, Bishop Museum Press Honolulu, 178 pp.
- Evenhuis NL (2007) Catalog of the Diptera of the Australasian and Oceanian Regions. (online version). <http://hbs.bishopmuseum.org/aocat/mythico.html> [accessed: 14 March 2008]
- Evenhuis NL, David C (2004) Status of *Cyrtosia marginata* Perris (Diptera: Mythicomyiidae) with remarks on the type and new distribution records. Zootaxa 731: 1–10.
- Evenhuis NL, Greathead DJ (2015) World catalog of bee flies (Diptera: Bombyliidae). Revised September 2015. <http://hbs.bishopmuseum.org/bombcat/bombcat.pdf>
- Evenhuis NL, Kettani K (2018) Genera of Mythicomyiidae (Insecta, Diptera) new to the fauna of Morocco, with descriptions of new species. Zootaxa 4429(2): 348–356. <https://doi.org/10.11646/zootaxa.4429.2.9>
- Evenhuis NL, Pape T [Eds] (2021) *Systema Dipteriorum*, version 3.5. <http://diptera.org/> [accessed 20 October 2021]
- Fabricius JC (1787) Mantissa Insectorum sistens species nuper detectas adiectis characteribus, genericis, differentiis, specificis, emendationibus, observationibus. Tome II. Hafniae [= Copenhagen], 382 pp. [The entire work consists of 2 volumes] <https://doi.org/10.5962/bhl.title.36471>
- Fabricius JC (1794) entomologiae systematicae emendate et aucta 4(6). 472 pp.
- Fabricius JC (1805) Systema antliatorum secundum ordines, genera, species, adiectis synonymis, locis, observationibus, descriptionibus. Carolus Reichard, Brunsvigae [= Brunswick], [xiv + [15]–372 + [4] + 1–30]. <https://doi.org/10.5962/bhl.title.15806>
- Fain A, Athias-Binche F, Carton Y (1993) *Histiostoma unidentatum* n. sp. (Acari, Astigmata) associated with a fly *Drosophila bipectinata* originating from Thailand. Bulletin de l'Institut royal des Sciences naturelles de Belgique Entomologie & Biologie 63: 71–76.
- Falcoz L (1924) Dipteres Pupipares du Museum national d'Histoire naturelle de Paris (Streblidae et Nycteribiidae). Bulletin du Muséum d'histoire naturelle, Paris 30: 223–230, 309–315, 386–389. [14 figs]
- Faraj C, Daghmoussi F, Mouki B, El Hayati M, Benmansour N, Bennouna M, Mahjour J (1997) Évaluation de l'efficacité de la lambdacyalothrine, pyrethrinoïde de synthèse, dans la lutte contre *Anopheles labranchiae* en aspersions intradomiciliaires. Bulletin épidémiologique hebdomadaire, Ministère de la Santé, Maroc 25: 2–8.
- Faraj C, Adlaoui E, Rhajaoui M, Lyagoubi M (2003) Estimation of Malaria transmission in high-risk provinces of Morocco. Eastern Mediterranean Health Journal 9(4): 542–547. <https://doi.org/10.26719/2003.9.4.542>
- Faraj C, Adlaoui E, Saaf N, Romi R, Boccolini D, Di Luca M, Lyagoubi M (2004) Note sur le complexe *Anopheles maculipennis* au Maroc. Bulletin de la Société de pathologie exotique 97(4): 293–294.
- Faraj C, Elkohli M, Lyagoubi M (2006) Cycle gonotrophique de *Culex pipiens* (Diptera Culicidae), vecteur potentiel du virus West Nile, au Maroc: estimation de la durée en laboratoire. Bulletin de la Société de pathologie exotique 99(2): 119–121.

- Faraj C, Adlaoui E, Ouahabi S, Lakraa E, Elkohli M, El Aouad R (2007) Extension vers le nord du Maroc de l'aire de distribution d'*Anopheles (Cellia) d'thali* Patton, 1905. Bulletin de la Société de pathologie exotique 101(1): 62–64.
- Faraj C, Adlaoui E, Brengues C, Fontenille D, Lyagoubi M (2008a) Résistance d'*Anopheles labranchiae* au DDT au Maroc: identification des mécanismes et choix d'un insecticide de remplacement. Eastern Mediterranean Health Journal 14(4): 776–783.
- Faraj C, Ouahabi S, Adlaoui E, Buccolini D, Romi R, El Aouad R (2008b) Risque de réémergence du paludisme au Maroc. Etude de la capacité vectorielle d'*Anopheles labranchiae* dans une zone rizicole au nord du pays. Parasite 15(4): 604–610. <https://doi.org/10.1051/parasite/2008154605>
- Faraj C, Adlaoui E, Elkohli M, Herrak T, Ameer B, Chandre F (2010) Review of Temephos Discriminating Concentration for Monitoring the Susceptibility of *Anopheles labranchiae* (Falleroni, 1926), Malaria Vector in Morocco. Malaria Research and Treatment, Article ID 126085: 1–5. <https://doi.org/10.4061/2010/126085>
- Faraj C, Ameer B, Himmi O, Sarih M, Herrak T, Herrak R, Ouahabi S, Haddaf M, Wahabi R, Maaroufi A (2018) Enquête entomologique sur les vecteurs des arbovirus: Zika, Dengue et Chikungunya au Maroc. Bulletin d'épidémiologie et de Santé publique 56(76): 38–41.
- Farkas R, Hall MJR, Bouzagou AK, Lhor Y, Khallaayoune K (2009) Traumatic myiasis in dogs caused by *Wohlfahrtia magnifica* and its importance in the epidemiology of wohlfahrtiosis of livestock. Medical and Veterinary Entomology 23(Suppl. 1): 80–85. <https://doi.org/10.1111/j.1365-2915.2008.00772.x>
- Faucheux MJ (2009) Signalement de *Nemotelus cylindricornis* Rozkošný, 1977 au Maroc (Diptera: Stratiomyidae: Nemotelinae). Bulletin de la Société des sciences naturelles de l'Ouest de la France 31(3): 144.
- Fekhaoui M, Dakki M, Aghbani M (1993) Faune benthique d'une rivière polluée: l'oued Sebou à l'aval de la ville de Fès (Maroc). Bulletin de l'Institut scientifique, Rabat 17: 21–38.
- Fendane Y, Richet R, Thomann T, Jourdan M, Baker G, Ghamizi M, Sheppar A (2018) First records of flesh flies (Diptera: Sarcophagidae) emerging from terrestrial snails in Morocco. African Entomology 26(1): 124–130. <https://doi.org/10.4001/003.026.0124>
- Filali Mouatasssem T, Faraj C, Guemmouh R, Rais N, El Ouali Lalami A (2019) Quantitative Inventory of Mosquito Larvae (Diptera: Culicidae) and Physicochemical Analysis of Aquatic Habitats in the Region of Fez, Morocco. Bulletin de la Société de pathologie exotique 112(2): 105–113. <https://doi.org/10.3166/bspe-2019-0084>
- Fittkau EJ (1962) Die Tanypodinae (Diptera, Chironomidae). Abhandlungen zur Larvalsystematik der Insekten 6: 1–453.
- Fittkau EJ, Reiss F (1978) Chironomidae (Diptera). In: Illies J (Ed.) Limnofauna Europaea 2. Aufl. G. Fischer, Stuttgart, 404–440.
- Fleuriet A (1976) Presence of the hereditary *rhabdovirus* sigma and polymorphism for a gene for resistance to this virus in natural populations of *Drosophila melanogaster*. Evolution 30: 735–739. <https://doi.org/10.1111/j.1558-5646.1976.tb00953.x>
- Foote RH (1984) Family Tephritidae. In: Soós Á, Papp L (Eds) Catalogue of Palaearctic Diptera. Vol. 9, Micropezidae – Agromyzidae. Akademiai Kiado, Budapest & Elsevier Science Publishers, Amsterdam, 66–149. [460 pp]
- Freidberg A (1980) A revision of the genus *Goniurellia* Hendel (Diptera: Tephritidae). Journal of the Entomological Society of southern Africa 43(2): 257–274.



- Freidberg A, Kugler J (1989) Fauna Palaestina, Insecta IV Diptera: Tephritidae. The Israel Academy of Sciences and Humanities, Jerusalem, 212 pp.
- Freidberg A, Beschovski V (1996) A new species group within *Tethina* Haliday (Diptera: Tethinidae) with descriptions of six new Mediterranean species. Israel Journal of Entomology 30: 91–113.
- Freidberg A, Carles-Tolrá M (2010) A new species of *Phlebosotera* Duda (Diptera: Asteiidae) from the Mediterranean, with comments on its biology and a key to *Phlebosotera* species. Studia dipterologica 17(2): 91–102.
- Frey R (1936) Die Dipterenfauna der Kanarischen Inseln und ihre Probleme. Commentationes biologicae 6(1): 1–237.
- Gagné RJ (1995) Revision of tetranychid (Acarina) mite predators of the genus *Feltiella* (Diptera: Cecidomyiidae). Annals of the Entomological Society of America 88: 16–30. <https://doi.org/10.1093/aesa/88.1.16>
- Gagné RJ (2004) A catalog of the Cecidomyiidae (Diptera) of the world. Memoirs of the Entomological Society of Washington 25: 1–408.
- Gagné RJ (2010) Update for a catalog of the Cecidomyiidae (Diptera) of the world. 545 pp.
- Gagné RJ, Hatchett JH, Lhaloui S, El Bouhssini M (1991) The Hessian fly and the barley stem Gall midge, two different species of *Mayetiola* (Diptera: Cecidomyiidae) in Morocco. Annals of the Entomological Society of America 84(4): 436–443. <https://doi.org/10.1093/aesa/84.4.436>
- Gagné RJ, Jaschhof M (2014) A Catalog of the Cecidomyiidae (Diptera) of the World. 3<sup>rd</sup> edn. Digital version 2, 493 pp.
- Gaimari SD, Mathis WN (2011) World Catalog and Conspectus on the Family Oadiniidae (Diptera: Schizophora). Myia 12: 291–339.
- Gatt P (2003) New species and records of *Microphorella* Becker (Diptera: Empidoidea, Dolichopodidae) from the Mediterranean region. Revue suisse de Zoologie 110(4): 669–684. <https://doi.org/10.5962/bhl.part.80205>
- Gatt P (2006) New records of Sphaeroceridae (Diptera) from the Mediterranean, with distributional notes. Studia dipterologica 13(2): 297–308.
- Gatt P, Ebejer MJ (2003) The Ephydriidae (Diptera: Brachycera, Muscomorpha) of the Maltese Islands. Studia dipterologica 10(1): 199–214.
- Gatt P, Kettani K, Ebejer MJ (2016) New records of lesser dung flies (Diptera, Sphaeroceridae) from Morocco. Dipterists Digest 23: 77–82.
- Gaud J (1945a) Présence au Maroc d'*Anopheles* (*Myzomyia*) *turkhuhi* Liston, 1901. Archives de l'Institut Pasteur du Maroc 4: 144–147.
- Gaud J (1945b) Contribution à l'étude des Culicidés au Maroc, quatre espèces nouvelles pour la faune locale. Bulletin de la Société des sciences naturelles du Maroc, Rabat 25–27: 204–206.
- Gaud J (1947a) Phlébotomes du Maroc. Bulletin de la Société des sciences naturelles du Maroc 17: 207–212.
- Gaud J (1947b) Larves d'Anophèles à soies clypéales doublées. Annales de Parasitologie 22: 394–396. <https://doi.org/10.1051/parasite/1947225394>
- Gaud J (1947c) Lutte antipaludique au Maroc en 1947. Bulletin de l'Institut d'Hygiène du Maroc 7: 119–125.
- Gaud J (1948) Rythmes saisonniers d'activité d'*A. maculipennis* et d'*A. claviger* au Maroc en fonction de l'altitude. Bulletin de la Société de pathologie exotique 12: 494–498.

- Gaud J (1952) Données sur la biocoenose culicidienne de quelques gîtes du Gharb en 1952. Bulletin de l'Institut d'Hygiène, Maroc 12: 55–72.
- Gaud J (1953a) Notes bibliographiques sur les Culicidae du Maroc. Archives de l'Institut Pasteur du Maroc 4: 443–490.
- Gaud J (1953b) Larves d'Anophèles à palettes thoraciques hyperchitinisées. Annales de Parasitologie 28: 326–328.
- Gaud J (1954) Phlébotomes du Maroc. Bulletin de l'Institut d'Hygiène, Maroc 14(1–2): 91–107.
- Gaud J (1957a) Note de terrain. Comptes Rendus de la Société des sciences naturelles du Maroc 23: 116.
- Gaud J (1957b) Présence au Maroc de *Theobaldia subochrea* Edwards 1921. Archives de l'Institut Pasteur du Maroc 5: 268–269.
- Gaud J, Mechali D, Clier JL (1948) Emploi et avenir des insecticides de contact au Maroc dans la prophylaxie des maladies épidémiques. Bulletin de l'Institut d'Hygiène du Maroc 8: 35–90. <https://doi.org/10.1051/parasite/1948231035>
- Gaud J, Faure F, Maurice A (1949) Biogéographie des espèces anophéliennes au Maroc. Bulletin de l'Institut d'Hygiène du Maroc, Nouvelle Série 9: 145–163.
- Gaud J, Faure F, Maurice A (1950) Répartition et fréquence relative des espèces anophiliennes au Maroc. Annales de Parasitologie 25: 53–60. <https://doi.org/10.1051/parasite/1950251053>
- Gaud J, Laurant J (1952) Observations sur les Phlébotomes de la région de Rabat. Bulletin de l'Institut d'Hygiène du Maroc 12(1–2): 75–76.
- Gaud J, Duthu P (1954) La variété marocaine d'*Anopheles turkhudi*, ses rapports avec *Anopheles hispaniola*. Bulletin de l'Institut d'Hygiène du Maroc 5: 59–69.
- Geipert S (1993) Entwicklung integrierter Verfahren zur Kontrolle von *Orobancha crenata* Forsk. in Marokko. Internal report, Supra-regional GTZ-project “Ecology and Management of Parasitic Weeds”, University of Hohenheim, Germany, unpublished.
- Geipert S, Kroschel J, Sauerborn J (1994) Incidence of *Phytomyza orobanchia* Kalt. (Diptera: Agromyzidae) in northern Morocco and perspectives for a biological control of *Orobancha* spp. – Results of a field survey. In: Fifth Arab Congress of Plant Protection, 27<sup>th</sup> November – 2<sup>nd</sup> December 1994, Fès, Morocco, 235–235.
- Geller-Grimm F (2004) A world catalogue of the genera of the family Asilidae (Diptera). Studia dipterologica 10(2): 473–526.
- Geller-Grimm F, Hradsky M (1998) A new species of *Eremonotus* from Morocco, with some remarks about the subfamily Apocleinae in the Palaearctic region (Diptera, Asilidae). [Eine neue *Eremonotus*-Art aus Marokko und einige Bemerkungen über die Unterfamilie Apocleinae in der Paläarktis.]. Studia dipterologica 5(1): 61–66.
- Geller-Grimm F (2015) Asilidae Homepage: Catalog of Species of Asilidae. <http://www.geller-grimm.de/catalog/species.htm> [accessed September 2015]
- Gerstaecker A (1868) Systematische Uebersicht der bis jetzt bekannt gewordenen Mydaiden (*Mydasii* Latr.). Stettiner Entomologische Zeitung 29: 65–103. [1 pl.]
- Ghahari H, Lehr PA, Lavigne RJ, Hayat R, Ostovan H (2007) New records of robber flies (Diptera, Asilidae) for the Iranian fauna with their prey records. Far Eastern Entomologist 179: 1–9.
- Ghahari H, Hayat R, Lavigne RJ, Ostovan H (2014) An annotated checklist of Iranian Asilidae (Insecta: Diptera: Brachycera: Asiloidea). Linzer biologische Beiträge 46(2): 1379–1446.

- Gheibi M, Ostovan H, Kamali K (2010) A contribution to the Tachinid flies of the subfamilies Exoristinae and Tachininae (Diptera: Tachinidae) from Fars province, Iran. *Turkish Journal of Zoology* 34: 35–43.
- Gibbs D (2011) A world revision of the beefly tribe Usiini (Diptera, Bombyliidae). Part 1: *Usia* subgenus *Micrusia*, *U. versicolor* (Fabricius) (= black-haired species) and *Usia martini* François. *Zootaxa* 2960: 1–77. <https://doi.org/10.11646/zootaxa.2960.1.1>
- Gibbs D (2014) A world revision of the beefly tribe Usiini (Diptera, Bombyliidae). Part 2: *Usia* sensu strict. *Zootaxa* 3799(1): 1–85. <https://doi.org/10.11646/zootaxa.3799.1.1>
- Gil Collado J (1929a) Sirefidos de Marruecos del Museo de Madrid (Dipt., Syrphidae). *Memorias de la Real Sociedad Española de Historia Natural* 12(6): 408–414.
- Gil Collado J (1929b) Cyrtidos españoles y marroquies del museo de Madrid. *Memorias de la Real Sociedad Española de Historia Natural* 15: 539–552.
- Gil Collado J (1932) Notas sobre pupíparos de España y Marruecos del Museo de Madrid (Dipt., Pupiparos). *EOS-Revista Española de Entomología* 8: 29–41.
- Gil Collado J (1934) Dos nuevas formas del género *Nemestrellus* Sack de España y Marruecos (Dipt., Nemestrinidae). *EOS-Revista Española de Entomología* 9: 321–327.
- Gilasian E, Talebi AA, Ziegler J, Manzari S, Parchami Araghi M (2013) A review of the genus *Cylindromyia* Meigen (Diptera: Tachinidae) in Iran, with the description of two new species and the newly discovered male of *C. persica* Tschorsnig. *Studia dipterologica* 20(2): 299–324.
- Gioia Martins-Neto R (2003) The Fossil Tabanids (Diptera Tabanidae): When They Began to Appreciate Warm Blood and When They Began Transmit Diseases? *Memórias do Instituto Oswaldo Cruz, Rio de Janeiro* 98(Suppl. I): 29–34. <https://doi.org/10.1590/S0074-02762003000900006>
- Gisondi S, Rognes K, Badano D, Pape T, Cerretti P (2020) The world Polleniidae (Diptera, Oestroidea): key to genera and checklist of species. *ZooKeys* 971: 105–155. <https://doi.org/10.3897/zookeys.971.51283>
- Giudicelli J, Lavandier P (1974) Les Blépharocerides de la vallée d'Aure (Hautes Pyrénées, France): Systématique et Ecologie (Dipt., Nematocera). *Annals of Limnology* 10(3): 245–261. <https://doi.org/10.1051/limn/1974004>
- Giudicelli J, Thiery A (1985) About a peculiar type of rheocene spring in the High Atlas (Morocco). Description of a simuliid characteristic of this habitat, *Simulium* (*Crenosimulium* n. sp.) *knidirii* n.sp. (Diptera, Simuliidae). *Bulletin Zoölogisch museum Universiteit van Amsterdam* 10: 109–123.
- Giudicelli J, Bouzidi A (1987) Les blepharicerides (diptera) du Maroc. *Taxonomie et écologie. Vie et Milieu* 37(3–4): 201–206.
- Giudicelli J, Bouzidi A (1989) Contribution à l'étude faunistique et écologique des simulies (Diptera, Simuliidae) du Maroc. III. Deux espèces nouvelles du Haut Atlas: *Simulium* (*Simulium*) *atlasticum* n. sp. et *Simulium* (*Simulium*) *berberum* n. sp. *Annales de Limnologie* 25: 145–158. <https://doi.org/10.1051/limn/1989015>
- Giudicelli J, Bouzidi A, Ait Abdelaali N (2000) Contribution à l'étude faunistique et écologique des simulies (Diptera: Simuliidae) du Maroc. IV. Les simulies du Haut Atlas. Description d'une nouvelle espèce. *Annales de Limnologie* 36: 57–80. <https://doi.org/10.1051/limn/2000005>
- Gloor H, Staiger H (1954) Lethal-polyploid – a polyploid gene in *Drosophila hydei*. *Journal of Heredity* 45: 289–293. <https://doi.org/10.1093/oxfordjournals.jhered.a106497>

- González-Duarte R (1976) Estudio de esterases en poblaciones naturales de *Drosophila subobscura*. Thesis, University of Barcelona, Barcelona, 207 pp.
- González-Duarte R, González Izquierdo M, Prevosti A (1973) Polymorphism for esterases and alcohol dehydrogenases in natural populations of *Drosophila subobscura*. *Accademia delle Scienze dell'Istituto di Bologna* 261 (Ser. iii)1: 63–70.
- González-Mora D, Peris SV (1988) Los Calliphoridae de España: 1: Rhiniinae y Chrysomyinae (Diptera). *EOS-Revista Española de Entomología* 64: 91–139.
- Götz W (1965) Chromosomaler Polymorphismus in einem Muster von *Drosophila subobscura* aus Marokko. mit Darstellung der Heterozygotieverhältnisse als Heterozygotiediagramm. *Zeitschrift für induktive Abstammungs und Vererbungslehre* 97: 40–45. <https://doi.org/10.1007/BF00898571>
- Grabener S (2017) Pollination syndromes and networks along an environmental gradient in southern Morocco. Master's thesis, Universität Hamburg, Germany, 227 pp.
- Greathead DJ (2001) *Exoprosopa pandora* (Fabricius, 1805) (Diptera: Bombyliidae) and related species in Europe and the Mediterranean Basin. *Insect Systematics & Evolution* 32(3): 279–284. <https://doi.org/10.1163/187631201X00218>
- Gregor F, Rozkošný R, Barták M, Vaňhara J (2002) The Muscidae (Diptera) of Central Europe. *Universitatis Masarykianae Brunensis, Biologia* 107, 280 pp.
- Grenier P (1953) Simuliidae de France et d'Afrique du Nord (systématique, biologie, importance médicale). *Encyclopédie entomologique (A)* 29: 1–170.
- Grenier P, Théodoridès J (1953) Simulies (Dipt., Simuliidae) du Maroc. *Archives de l'Institut Pasteur du Maroc* 4: 429–441.
- Grenier P, Faure PR (1957) Description d'une similie nouvelle du Maroc: *Simulium gaudi* n. sp. (Diptera, Simuliidae). *Bulletin de la Société de pathologie exotique* 49: 838–840.
- Grenier P, Faure PR, Laurent J (1957) Simulies (Diptera, Simuliidae) du Maroc (Deuxième mémoire). *Archives de l'Institut Pasteur du Maroc* 5: 218–242.
- Grenier P, Bailly-Choumara H (1970) *Simulium gracilipes* Edwards, 1921: description de la larve, nymphe, imago mâle et description complémentaire de la femelle. Diagnose du sous-genre *Crosskeyellum* nov. sp. (Diptera: Simuliidae). *Cahiers O.R.S.T.O.M. Série Entomologie médicale et Parasitologie* 8: 95–105.
- Grichanov IYa (2006) A checklist and keys to North European genera and species of Dolichopodidae (Diptera). *All-Russian Institute of Plant Protection RAAS*, 120 pp.
- Grichanov IYa (2007) A checklist and keys to Dolichopodidae (Diptera) of the Caucasus and East Mediterranean. *Plant Protection News, Supplement*, 160 pp.
- Grichanov IYa (2009) New records for Mediterranean Dolichopodidae (Diptera). *International Journal of Dipterological Research* 20(4): 207–215.
- Grichanov IYa (2012) Review of *Campsicnemus* species from the Atlantic Ocean Islands (Diptera: Dolichopodidae). *European Journal of Taxonomy* 11: 1–12. <https://doi.org/10.5852/ejt.2012.11>
- Grichanov IYa (2019) New records of long-legged flies (Diptera, Dolichopodidae) from Morocco. *Amurian Zoological Journal* vol. XI(2): 126–130. <https://doi.org/10.33910/2686-9519-2019-11-2-126-130>
- Grichanov IYa (2020) A checklist of species of the family Dolichopodidae (Diptera) of the World arranged by alphabetic list of generic names. <http://grichanov.aiq.ru> [accessed July 2019]

- Grichanov IYa (2013) Systematic notes on west Palaearctic species of the genus *Syntormon* Loew (Diptera: Dolichopodidae). In: Grichanov IYa, Negrobov OP (Eds) Fauna and taxonomy of Dolichopodidae (Diptera). Collection of papers. St. Petersburg: VIZR RAAS, 2013, 3–26. [96 pp] [«Plant Protection News, Supplement»] <https://doi.org/10.5852/ejt.2013.61>
- Grichanov IYa, Negrobov OP (2014) Palaearctic species of the genus *Sciapus* Zeller (Diptera: Dolichopodidae). St. Petersburg: VIZR, 84 pp. [«Plant Protection News Supplements», N13]
- Grichanov IYa, Vikhrev N (2009) Mediterranean species of the *Medetera plumbella* species group with description of a new peculiar species from Morocco (Diptera: Dolichopodidae). Zootaxa 2170: 46–52. <https://doi.org/10.11646/zootaxa.2170.1.5>
- Grichanov IYa, Nourti M, Kettani K (2020a) The *Hercostomus exarticulatus* species group in the Palaearctic Region (Diptera: Dolichopodidae). Caucasian Entomological Bulletin 16(1): 27–34. <https://doi.org/10.23885/181433262020161-2734>
- Grichanov IYa, Nourti M, Kettani K (2020b) A new species of *Chrysotus* Loew, 1857 (Dolichopodidae, Diptera) from Morocco. Acta Zoologica Bulgarica 72(3): 333–338.
- Grichanov IYa, Nourti M (2021) Notes on taxonomy and distribution of some *Ortochile* Latreille, 1809, *Sybistroma* Meigen, 1824 and *Teuchophorus* Loew, 1857 (Diptera: Dolichopodidae) species from Mediterranean Region. Russian Entomological Journal 30(2): 189–195. <https://doi.org/10.15298/rusentj.30.2.14>
- Griffiths GCD (1967) Revision of the *Phytomyza syngenesiae* group (Diptera, Agromyzidae), including species hitherto known as “*Phytomyza atricornis* Meigen”. Stuttgarter Beiträge zur Naturkunde 177: 1–28.
- Griffiths GCD (1974) Studies on Boreal Agromyzidae (Diptera). V. On the genus *Chromatomyia* Hardy, with revision of Caprifoliaceae-mining species. Quaestiones entomologicae 35(1): 35–69.
- Griffiths GCD (1980) Studies on Boreal Agromyzidae (Diptera). XIV. *Chromatomyia* miners on Monocotyledones. Entomologica scandinavica Supplement 13: 1–61.
- Grootaert P, Chvála M (1992) Monograph of the genus *Platypalpus* (Diptera: Empidoidea, Hybotidae) of the Mediterranean region and the Canary Islands. Acta Universitatis Carolinae. Biologica 36: 3–226.
- Grootaert P, Zouhair L, Kettani K (2021) New species of the genus *Stilpon* Loew, 1859 from Morocco (Diptera: Empidoidea, Hybotidae). Belgian Journal of Entomology 113: 1–12.
- Guernaoui S, Pesson B, Boumezzough A, Pichon G (2005) Distribution of Phlebotomine Sandflies, of the subgenus *Larrousius*, in Morocco. Medical and Veterinary Entomology 19: 111–115. <https://doi.org/10.1111/j.0269-283X.2004.00548.x>
- Guernaoui S, Boumezzough A (2009) Habitat Preferences of Phlebotomine Sand Flies (Diptera: Psychodidae) in Southwestern Morocco. Journal of Medical Entomology 46(5): 1187–1194. <https://doi.org/10.1603/033.046.0529>
- Guy Y (1958) Extension vers le Nord de l’aire d’*Anopheles* (*Anopheles*) *coustani* Laveran, 1900. Bulletin de la Société des sciences naturelles et physiques du Maroc 38: 207–212.
- Guy Y (1959a) Les rapports entre l’anophélisme et le paludisme. Bulletin de la Société des sciences naturelles et physiques du Maroc 39(2): 83–90.
- Guy Y (1959b) Les Anophèles du Maroc. Mémoires de la Société des sciences naturelles et physiques du Maroc, Nouvelle série, Rabat 7: 1–235.

- Guy Y (1961) A propos d'une larve monstrueuse d'Anophèle. *Annales de Parasitologie* 36: 788–796. <https://doi.org/10.1051/parasite/1961365788>
- Guy Y (1962) Renseignements fournis par l'étude du rapport larves–adultes d'Anophèles. *Annales de Parasitologie* 37: 633–643. <https://doi.org/10.1051/parasite/1962374633>
- Guy Y (1963) Bilan épidémiologique du paludisme au Maroc (données recueillies entre 1960, 1961 et 1962). *Annales de Parasitologie Humaine et Comparée* 38: 823–857. <https://doi.org/10.1051/parasite/1963385823>
- Guy Y (1967) Une hypothèse au sujet des larves monstrueuses dans le genre «*Anopheles*». *Archives de l'Institut Pasteur d'Algérie* 45: 51–61.
- Guy Y, Dupuy R, n'Haili (1958) Importance d'*Anopheles (Myzomyia) sergenti* Theobald, 1907 au Maroc. *Comptes Rendus de la Société des sciences naturelles et physiques du Maroc* 24(8): 194.
- Guy Y, Holstein M (1968) Données récentes sur les Anophèles du Maghreb. *Archives de l'Institut Pasteur d'Algérie* 46: 142–150.
- Hackman W (1960) Coelopidae, Drosophilidae, Sphaeroceridae and Scatophagidae (Diptera, Cyclorhapha) from Azores and Madeira. *Boletim do Museu Municipal do Funchal (História Natural)* № XIII, Art 38.
- Hackman W (1970) Trixoscelidae (Diptera) from Southern Spain and Description of a New *Trixoscelis* species from Northern Europe. *Entomologica scandinavica* 1: 127–134. <https://doi.org/10.1163/187631270X00168>
- Hadji M, Belghiti D, Elomari F, El Assal M, El Marsini M (2013) Étude de la dynamique stationnelle des populations des culicidés dans la province de Sidi Slimane (Maroc). *Afrique Science* 9(1): 128–139.
- Hadji M, Belghiti D, El Assal M, El Marsini M, Laaroussi T (2014) Cartographie de la faune culicidienne dans la province de Sidi Slimane (Maroc). *World Journal of Biological Research* 6(1): 7–13.
- Haenni JP (1981) North African *Dilophus* Meigen, with description of *D. maghreben-sis* n. sp. (Diptera: Bibionidae). *Entomologica scandinavica* 12: 429–432. <https://doi.org/10.1163/187631281X00490>
- Haenni JP (1990) Note sur la présence en Europe de *Chorisops tunisiae* (Beck.) (Diptera, Stratiomyidae). *Bulletin de la Société neuchâteloise des sciences naturelles* 113: 285–288.
- Haenni JP (2009) The Bibionidae (Diptera) of Sardinia, with description of two new species. *Zootaxa* 2318: 427–439. <https://doi.org/10.11646/zootaxa.2318.1.17>
- Haenni JP, Kettani K (2011) Première note sur les Scatopsidae du Maroc, avec la description d'une espèce nouvelle (Diptera). *Bulletin de la Société entomologique de France* 116(1): 73–79. <https://doi.org/10.3406/bsef.2011.2907>
- Haenni JP, Kettani K (2016) Note faunistique sur les Scatopsidae du Rif (nord du Maroc) (Diptera). *Bulletin de la Société entomologique de France* 121(4): 517–520. <https://doi.org/10.3406/bsef.2016.2789>
- Hafraoui A (1966) Premières constatations de dégâts causés par une Cécidomyie sur l'olivier *Climodiplosis cleisuga* Targ (Dipt., Cecidomyiidae). *Al Awamia* 20: 139–141.
- Hall MJR, Testa JM, Smith L, Adams ZJO, Khallaayoune K, Sotiraki S, Stefanakis A, Farkas R, Ready PD (2009) Molecular genetic analysis of populations of Wohlfahrt's wound myiasis fly, *Wohlfahrtia magnifica*, in outbreak populations from Greece and Morocco. *Medical and Veterinary Entomology* 23(Suppl. 1): 72–79. <https://doi.org/10.1111/j.1365-2915.2009.00780.x>



- Hanafi A, Schnitzler WH (2004) Integrated production and protection in greenhouse tomato in Morocco. ISHS. (International Society for Horticultural Science): Acta Agriculturae 659: 323–330. <https://doi.org/10.17660/ActaHortic.2004.659.38>
- Handaq N (1998) Les moustiques du Maroc: écologie et biogéographie des peuplements culicidiens dans les régions montagneuses, semi arides et arides du Maroc occidental: Essai de biotypologie des gîtes larvaires et étude comparative de la dynamique des populations marocaines et tunisiennes. Thèse de Doctorat de 3ème cycle, Université Cadi Ayad, Marrakech, 189 pp.
- Handaq N, Boumezzough A (1999) *Aedes caspius* dans le sud-ouest marocain: impact de l'aridité sur la dynamique des populations pré imaginale (Diptera, Culicidae). Bulletin de la Société entomologique de France 104(2): 183–191. <https://doi.org/10.3406/bsef.1999.16567>
- Handaq N, Boumezzough A (2002) Confirmation de la présence au Maroc d'*Aedes aegypti* Linné, 1762, en zone continentale dans la région de Marrakech (Diptera, Culicidae). Bulletin de la Société entomologique de France 107(2): 200–200. <https://doi.org/10.3406/bsef.2002.16840>
- Harris KM (1968) A systematic revision and biological review of the cecidomyiid predators (Diptera, Cecidomyiidae) on world Coccoidea. Transactions of the Royal Entomological Society of London 119: 409–494. <https://doi.org/10.1111/j.1365-2311.1968.tb00504.x>
- Harris EJ, Hafraoui A, Toulouti B (1980) Mortality of Nontarget Insects by Poison Bait Applied to Control the Mediterranean Fruit Fly, *Ceratitis capitata* (Diptera: Tephritidae), in Morocco. Proceedings, Hawaiian Entomological Society Vol. 23, No. 2.
- Hauser M, Kassebeer CF (1998) *Neoascia clauseni* spec. nov. aus Nordafrika (Diptera, Syrphidae). Dipteron 1(2): 37–44.
- Hauser M, Winterton SL, Kirk-Spriggs AH, Holsten KC (2017) 49. Therevidae (Stiletto Flies). In: Kirk-Spriggs AH, Sinclair BJ (Eds) Manual of Afrotropical Diptera. Volume 2. Nematoceros Diptera and lower Brachycera. Suricata, Volume 5. SANBI Graphics & Editing, Pretoria, 1183–1220.
- Hayat R, Ghahari H, Lavigne R, Ostovan H (2008) Iranian Asilidae (Insecta: Diptera). Turkish Journal of Zoology 32: 175–195.
- HCEFLCD [Haut-Commissariat aux Eaux et Forêts et à la Lutte Contre la Desertification] (2017) Plan d'Aménagement et de Gestion du Parc National de Toubkal. Mission I – Diagnostic : analyse du périmètre d'intervention et du territoire environnant. Mai 2017, 305 pp.
- Hendel FG (1913) Die Gattung *Platystoma* Meigen (Dipt.). Eine monographische Übersicht über die Arten. Mit Taf. 1–2. Zoologische Jahrbücher (Abteilung für Systematik) 35: 55–126. [+ 3] [2 tables]
- Hendel FG (1927) 49. Trypetidae. In: Lindner E (Ed.) Die Fliegen der palaearktischen Region 5, 221 pp.
- Hendel FG (1931–36) 59. Agromyzidae. In: Lindner E (Ed.) Die Fliegen der palaearktischen Region 6(2): xi + 570 pp., pls i–xvi + 16 pp.
- Hennig W (1945) 48. Platystomatidae. E. Lindner (Herausgeber). Die Fliegen der palaearktischen Region 5(155): 1–56. [+ 3 tables]
- Hérard F, Fraval A (1980) La répartition et les ennemis naturels de *Lymantria dispar* (L.) (Lép.: Lymantriidae) au Maroc, 1973–1975. Acta oecologica. Oecologia applicata 1: 35–48.
- Herman P, Dirlbek J (2006) Contribution to the knowledge of the fruit fly fauna of Algeria, Morocco and Tunisia (Diptera: Tephritidae). Acta Universitatis Carolinae. Biologica 50: 53–56.

- Hernández-Moreno S, Peris SV (1989) *Ophyra aenescens* (Wiedemann, 1830), aclimatada en la Península Ibérica, con notas sobre algunas otras especies del grupo (Diptera, Muscidae). Boletín de la Real Sociedad Española de Historia Natural (Sección Biológica) 84(3–4): 207–217.
- Herting B (1979) Beschreibungen neuer Raupenfliegen (Dipt., Tachinidae) und Revision der *Besseria anthophila*-Gruppe. Stuttgarter Beiträge zur Naturkunde Serie A (Biologie) 323: 1–10.
- Herting B, Dely-Draskovits A (1993) Tachinidae. In: Soós Á, Papp L (Eds) Catalogue of Palearctic Diptera Vol. 13. Hungarian Academy of Science, Budapest, 118–624. [624 pp]
- Hervy JP, Garulli F, Brunhes J, Geoffroy B (1994) Les entomologistes médicaux de l'ORSTOM et la diversité du vivant. Un demi-siècle de descriptions d'espèces nouvelles ORSTOM éditions, 76 pp.
- Himmi O (1991) Culicidae (Diptera) du Maroc: Clé de détermination actualisée et étude de la dynamique et des cycles biologiques de quelques populations de la région de Rabat – Kénitra. Thèse de doctorat de 3ème cycle, Faculté des Sciences, Rabat, 185 pp.
- Himmi O (2007) Les culicides (Insectes, Diptères) au Maroc: Systématique, écologique et études épidémiologiques pilotes. Thèse d'Etat. Université Mohammed V, Agdal, Faculté des Sciences, 363 pp.
- Himmi O, Bayed A, El Agbani MA, Dakki M (1994) Critère d'âge et détermination des stades larvaires chez les Culicides (Diptera) du Maroc. Actes de la VIème CILEF, Hydroécologie appliquée, Publication particulière 1: 61–84.
- Himmi O, Dakki M, Trari B, El Agbani MA (1995) Les Culicidae du Maroc: Clés d'identification, avec données biologiques et écologiques. Travaux de l'Institut Scientifique. Série Zoologie, Rabat 44: 1–50.
- Himmi O, El Agbani MA, Trari B, Dakki M (1998) Contribution à la connaissance de la cinétique et des cycles biologiques des Moustiques (Diptera, Culicidae) dans la région de Rabat – Kénitra (Maroc). Bulletin de l'Institut scientifique, Rabat 21: 71–79.
- Hippa H, Vilkamaa P, Heller K (2010) Review of the Holarctic *Corynoptera* Winnertz, 1867, s. str. (Diptera, Sciaridae). Zootaxa 2695: 1–197. <https://doi.org/10.11646/zootaxa.2695.1.1>
- Houard C (1912) Les Zoocécidies du Nord de l'Afrique. Annales de la Société entomologique de France 81: pls 1–2, 1–236.
- Houard C (1917) Cécidies Nord-Africaines. Troisième Contribution. Marcellia 15(1916): 121–132.
- Houard C (1919) Les Collections cécidologiques du Laboratoire d'Entomologie du Muséum d'Histoire naturelle de Paris: Galles de l'Ancien Continent, extra-européennes. Marcellia 16(1917): 79–100.
- Houard C (1921) Les Collections cécidologiques du Laboratoire d'Entomologie du Muséum d'Histoire naturelle de Paris: Galles du Nord de l'Afrique. Marcellia 17(1918): 114–135.
- Houard C (1922) Les Collections cécidologiques du Laboratoire d'Entomologie du Muséum d'Histoire naturelle de Paris: Cécidies récoltées au Maroc par C-J. Pitard. Marcellia 19(1920): 86–116.
- Houard C (1922–1923) Les Zoocécidies des Plantes d'Afrique, d'Asie et d'Océanie. Vols 1+2. Jules Hermann, Paris, 1–498, 1 pl., I–V, 501–1058.
- Houard C (1923) Les Collections cécidologiques du Laboratoire d'Entomologie du Muséum d'Histoire naturelle de Paris: Galles du Maroc et de l'Algérie. Marcellia 20(1921–1923): 122–162.



- Howard V, Weems Jr, Sanford MT (2000) Bee louse, *Braula coeca* Nitzsch (Insecta: Diptera: Braulidae). EENY-171 (IN328) (originally published as DPI Entomology Circular 252). Featured Creatures series of the Entomology and Nematology Department, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida.
- Hradský M, Hüttinger E (1995) Übersicht über die Arten der Gattung *Eriopogon* Loew, 1847, mit Beschreibung von *E. spatenkai* spec. nov. aus Nordafrika (Insecta: Diptera: Asilidae). Reichenbachia 31(20): 103–106.
- Hradský M, Geller-Grimm F (1997) Eine neue Art aus der Gattung *Stiphrolamyra* (Diptera, Asilidae, Laphriinae). Studia dipterologica 4(1): 193–196.
- Hradský M, Geller-Grimm F (2005) The *appendiculatus* species-group of *Habropogon* Loew, 1847 (Diptera: Asilidae) in the Palaearctic Region, including the description of new species. Zootaxa 1004: 1–14. <https://doi.org/10.11646/zootaxa.1004.1.1>
- Hudault E, Zelensky V (1939) Contribution à la connaissance de la biologie de la Cécidomyie destructive (*Mayetiola destructor* Say) au Maroc. Revue de Pathologie végétale et d'Entomologie agricole de France 26(1): 93–100.
- Hurkmans W (1993) A monograph of *Merodon* (Diptera: Syrphidae) Part 1. Tijdschrift voor Entomologie 136: 147–234.
- Ibn Jilali S (1988) Les Diptères Drosophilidae du Maroc: Morphologie, Ecologie et Démographie d'une espèce de drosophile phytophage *Scaptomyza pallida* Zetterstedt 1847. Thèse, University Mohamed V, Rabat, Maroc, 157 pp.
- IOBC-List 1 [The International Organization for Biological Control] (1956) Liste d'identification no 1. Entomophaga 1: 113–127. <https://doi.org/10.1007/BF02377895>
- IOBC-List 11 [The International Organization for Biological Control] (1989) Bestimmungsliste entomophager Insekten 11. IOBC/WPRS Bulletin 12(7): 63 pp.
- IOBC-List 12 [The International Organization for Biological Control] (1993) Determination list of entomophagous insects Nr. 12. IOBC/WPRS Bulletin 16(3): 56 pp.
- IOBC-List 13 [The International Organization for Biological Control] (1997) Determination list of entomophagous insects Nr. 13. IOBC/WPRS Bulletin 20(2): 53 pp.
- IOBC-List 14 [The International Organization for Biological Control] (2005) Determination list of entomophagous insects Nr. 14. IOBC/WPRS Bulletin 28(11): [VII +] 71 pp.
- Jaschhof M (1994) Eine neue *Lestremia*-Art aus Marokko (Cecidomyiidae, Lestremiinae). [A new *Lestremia* species from Morocco (Cecidomyiidae, Lestremiinae)]. Studia dipterologica 1(1): 122–125.
- Jaschhof M (1998) Revision der “Lestremiinae” (Diptera, Cecidomyiidae) der Holarktis. Studia dipterologica, Supplement 4, 552 pp.
- Jaschhof M, Jaschhof C (2009) The Wood Midges (Diptera: Cecidomyiidae: Lestremiinae) of Fennoscandia and Denmark. Studia dipterologica, Supplement 18: 333 pp. [+ appendix i–viii]
- Ježek J (1999) Rare and new Palaearctic *Tonnoiriella*-species (Diptera, Psychodidae). Časopis Národního muzea, Řada přírodovědná 168: 7–18.
- Ježek J (2004) New faunistic data of non-phlebotomine moth flies (Diptera, Psychodidae) from the Palaearctic region. In: Kubik Š, Barták M (Eds) Dipterologica bohemoslovaca Vol. 11. Folia facultatis scientiarum naturalium, Universitatis Masarykianae Brunensis, Biologia, 141–151. [109: 346 pp]

- Ježek J, Yağci Ş (2005) Common Non-biting Moth Flies (Insecta, Diptera, Psychodidae) New to the Fauna of Turkey. *Acta parasitologica Turcica* 29(3): 188–192.
- Ježek J, Hájek J (2007) Psychodidae (Diptera) of the Orlické hory Protected Landscape Area and neighbouring areas with descriptions of two new species from the Czech Republic. *Acta Entomologica Musei Nationalis Pragae* 47: 237–285.
- Ježek J, Barták M, Vanek J, Kubík Š (2012) Ovádovití (Diptera, Tabanidae) České Části Krkonoš. *Opera Corcontica* 49: 173–180.
- Jourdan L (1935a) *Clytiomyia helluo* F. parasite d'*Eurygaster austriaca* Schr. (Hem. Pent.). *Revue d'Entomologie France* 2(1): 83–88.
- Jourdan L (1935b) Notes sur deux mouches parasites *Clytiomyia* et *Gymnosoma* (Larvaevoridae). *Encyclopédie entomologique B. II. (Diptera)* 8: 117–119.
- Jourdan L (1935c) Observations biologiques sur les Macrolépidoptères du Maroc. *Revue de Pathologie végétale et d'Entomologie agricole de France* 22: 132–167.
- Jourdan L (1937) Observations sur la biologie de la Cécidomyie destructive (*Mayetiola destructor* Say) au Maroc. (1<sup>ère</sup> note). *Bulletin de la Société des sciences naturelles du Maroc* 17: 154–162.
- Jourdan L (1938) Une nouvelle mouche parasite des blés au Maroc, *Hylemyia sepia* Meigen (Diptère Anthomyiidae). *Bulletin de la Société des sciences naturelles du Maroc* 18: 25–26.
- Jousset FX (1976) Etude expérimentale du spectre d'hôtes du virus C de *Drosophila melanogaster* chez quelques Diptères et Lépidoptères. *Annals of Microbiology* 127(Ser. A): 529–544.
- Jousset FX, Plus N (1975) Etude de la transmission horizontale et de la transmission verticale des Picornavirus de *Drosophila melanogaster* et de *Drosophila immigrans*. *Annals of Microbiology Ser. B*, 126: 231–249.
- Kameneva EP (2007) A new species of *Herina* (Diptera, Ulidiidae) from Switzerland, with a key to the European species and notes on nomenclature and distribution. *Vestnik zoologii* 41(5): 405–421.
- Kameneva EP, Korneyev V (2016) Revision of the Genus *Physiphora* Fallén, 1810 (Diptera: Ulidiidae: Ulidiinae). *Zootaxa* 4087(1): 001–088. <https://doi.org/10.11646/zootaxa.4087.1.1>
- Kanervo E (1939) *Inventa entomologica itineris Hispanici et Maroccani, quod. 1926 fecerunt Harald et Hakam Lindberg. XXIV Diptera. Commentationes biologicae* 7(8): 1–6.
- Karimpour Y (2012) On the bee fly (Diptera: Bombyliidae) fauna from West Azarbaijan Province of Iran. *Biharean Biologist, Oradea, Romania* 6(2): 81–86.
- Kassebeer CF (1995) *Pipizella thapsiana* n. sp. aus dem Hohen Atlas (Diptera: Syrphidae) Beiträge zur Schwebfliegenfauna Marokkos, I. *Entomologische Zeitschrift* 105: 260–264.
- Kassebeer CF (1996) Eine neue Art der Gattung *Beris* Latreille, 1802 aus Marokko (Diptera, Stratiomyidae). *Studia dipterologica* 3(1): 155–159.
- Kassebeer CF (1998a) Ergänzende Nachweise von Schwebfliegen aus Marokko (Diptera: Syrphidae). Beiträge zur Schwebfliegenfauna Marokkos III. *Dipteron (Kiel)* 1(1): 21–24.
- Kassebeer CF (1998b) Die marokkanischen Arten der Gattung *Platycheirus* Le Peletier & Serville, 1828 (Diptera, Syrphidae); Beiträge zur Schwebfliegenfauna Marokkos V. *Dipteron (Kiel)* 1(2): 25–36.

- Kassebeer CF (1998c) Die marokkanischen Arten der Gattung *Cheilosia* Meigen, 1822 (Diptera, Syrphidae). Beiträge zur Schwebfliegenfauna Marokkos VII. Dipteron (Kiel) 1(3): 57–68.
- Kassebeer CF (1999a) Neue Nachweise von Netzfliegen (Diptera, Sciomyzidae) aus Marokko, mit einer Übersicht der Fauna des Maghreb. Dipteron (Kiel) 2(1): 1–10.
- Kassebeer CF (1999b) Eine neue Art der Gattung *Ferdinandea* Rondani, 1844 (Diptera, Syrphidae) aus Nordafrika. Beiträge zur Schwebfliegenfauna Marokkos IX. Dipteron (Kiel) 2(8): 153–162.
- Kassebeer CF (1999c) Eine neue Gattung der Brachyopini (Diptera, Syrphidae) aus dem Mittleren Atlas. Beiträge zur Schwebfliegenfauna Marokkos VIII. Dipteron (Kiel) 2(1): 11–24.
- Kassebeer CF (1999d) Zur Kenntnis einiger Gattungen der Chrysogasterini in Marokko (Diptera: Syrphidae). Beiträge zur Schwebfliegenfauna Marokkos, IV. Entomologische Zeitschrift 109(4): 155–164.
- Kassebeer CF (2000) Eine neue *Brachyopa* Meigen, 1822 (Diptera, Syrphidae) aus dem Atlas Beiträge zur Schwebfliegenfauna Marokkos X. Dipteron (Kiel) 3(2): 141–148.
- Kazerani F, Khaghaninia S, Grichanov IYa (2013a) The genus *Rhaphium* Meigen (Diptera: Dolichopodidae) in Iran, with new species records for the country. *Studia dipterologica* 20(1): 113–119.
- Kazerani F, Talebi AA, Gilasian E (2013b) An annotated checklist of the subfamily Syrphinae (Diptera: Syrphidae) of Iran. *Entomofauna* 34(34): 517–556.
- Kazerani F, Khaghaninia S, Talebi AA, Grichanov IYa (2014) Faunistic survey of Dolichopodidae in forests of northern Iran with nine species as new records for the country. *Zoology and Ecology* 24(3): 266–273. <https://doi.org/10.1080/21658005.2014.937926>
- Kechev M (2012) Long-Legged Flies (Diptera: Dolichopodidae) from the Upper Thracian Plain New to Bulgaria: Habitats and Distribution. *Acta Zoologica Bulgarica* 64(2): 205–208.
- Kechev M (2017) New records of long-legged flies (Diptera: Dolichopodidae) from Greece. *Silva Balcanica* 18(1): 53–57.
- Kechev M, Ivanova M (2015) New records of Dolichopodidae (Diptera) for Bulgaria. Comparison of Dolichopodid diversity on river banks and in some forests of the upper Thracian plain. *Silva Balcanica* 16(1): 87–104.
- Kehlmaier C (2004) Faunistic and taxonomic notes of Anisopodidae, Acroceridae, Conopidae and Stratiomyidae (Diptera) collected on the Iberian Peninsula. *Faunistische Abhandlungen* 25: 125–137.
- Kehlmaier C (2005) Taxonomic revision of European Eudorylini (Insecta, Diptera, Pipunculidae). *Verhandlungen des naturwissenschaftlichen Vereins in Hamburg (NF)* 41: 345–353.
- Kehlmaier C (2014) A new *Lampromyia* Macquart from Europe (Diptera: Vermileonidae). *Zootaxa* 3887(3): 481–493. <https://doi.org/10.11646/zootaxa.3887.4.6>
- Kelsey LP (1969) A revision of the Scenopinidae (Diptera) of the world. United States National Museum, Bulletin 277: [i–v +] 1–336. <https://doi.org/10.5962/bhl.title.16405>
- Kelsey LP, Soós Á (1989) Family Scenopinidae. In: Soós Á, Papp L (Eds) *Catalogue of Palaearctic Diptera. 6. Therevidae–Empididae*. Elsevier, Amsterdam & Akadémiai Kiadó, Budapest, 35–43. [435 pp]

- Kerr PH (2004) Revision of the genera of the Rhagionidae of the world (Diptera: Brachycera). Dissertation submitted to the Faculty of the Graduate School of the University of Maryland, College Park in partial fulfillment of the requirements for the degree of Doctor of Philosophy, 635 pp.
- Kettani K (1994) Etude faunistique et écologique des Chironomidés (Diptera) de l'Oued Laou et de l'Oued Martil. Thèse de troisième cycle, Université Abdelmalek Essaadi, Tétouan, 280 pp.
- Kettani K (1998) Etude Hydrobiologique de l'Oued Laou et de l'Oued Martil (Rif – Maroc): Peuplements chironomidiens (Diptera, Nematocera) et distribution longitudinale. Thèse d'Etat Es-Sciences, Université Abdelmalek Essaadi, Tétouan, 250 pp.
- Kettani K, Vilchez A, Calle D, El Ouazzani T (1994) Les Chironomidés (Diptera) du bassin de l'Oued Laou (Versant méditerranéen du Rif, Maroc). *Annales de Limnologie* 30(1): 25–32. <https://doi.org/10.1051/limn/1994002>
- Kettani K, Vilchez A, Calle D, El Ouazzani T (1995) Nouvelles récoltes de Chironomidés (Diptera) du Maroc: Les Chironomidés de l'Oued Martil (Rif). *Annales de Limnologie* 31(1): 253–261. <https://doi.org/10.1051/limn/1995023>
- Kettani K, Calle D, El Ouazzani T (1996) Données faunistiques actuelles sur les Chironomidés (Diptera) du Rif. *Bulletin de l'Institut scientifique*, Rabat 20: 131–141.
- Kettani K, Calle D, El Ouazzani T (1997) Nuevas especies de Chironomidos (Insecta – Diptera) en el alto Laou (Rif, norte de Marruecos). *Zoologica baetica* 8: 181–189.
- Kettani K, Calle D, El Ouazzani T (2001) Mise à jour de l'inventaire des Chironomidés (Diptera) connus du Maroc. *Annales de Limnologie* 37(4): 323–333. <https://doi.org/10.1051/limn/2001027>
- Kettani K, Belqat B, El Haouari H (2010) Les Chironomidés (Diptera) du Parc National de Talassemtane. *Actes CIFE VI. Travaux de l'Institut Scientifique, Rabat. Série Zoologie* 47(1): 67–72.
- Kettani K, Langton P (2011) New data on the Chironomidae (Diptera) of the Rif (Northern Morocco). *Polish Journal of Entomology* 80: 583–595. <https://doi.org/10.2478/v10200-011-0046-8>
- Kettani K, Langton P (2012) Les Chironomidae du Maroc (Diptera, Nematocera). *Bulletin de la Société entomologique de France* 117(4): 411–424. <https://doi.org/10.3406/bsef.2012.3065>
- Kettani K, Negrobov O (2016) The update check list of Dolichopodidae of Morocco (Diptera). *Centre for Entomological Studies Ankara* 128: 1–9.
- Kettani K, Moubayed-Breil J (2018) Communities of Chironomidae from four ecological zones delimited by the Mediterranean coastal ecosystem of Morocco (Moroccan Rif). Updated list and faunal data since the last two decades. *Journal of Limnology* 77(s1): 141–144. <https://doi.org/10.4081/jlimnol.2018.1727>
- Khaghaninia S, Kazerani F (2014) A review of the genus *Cheilosia* (Diptera, Syrphidae) from Iran. *Vestnik zoologii* 48(5): 401–410. <https://doi.org/10.2478/vzoo-2014-0048>
- Khaghaninia S, Zarghani E, Gharajedaghi Y (2014) A recent contribution to the black scavenger flies (Diptera: Sepsidae) in Iran. *Biharean Biologist* 8(1): 21–23.

- Khalifi L, El Bouhssini M, Amri A, Lhaloui S (1996) Effet de la Température sur l'expression de la Résistance à la mouche de Hesse (Diptère: Cecidomyiidae) chez le blé tendre (*Triticum aestivum* L.). *Al Awamia* 92: 33–42.
- Kiliç AY (1999) Checklist of Tabanidae (Diptera) From Turkey. *Turkish Journal of Zoology* 23: 123–132.
- Kirk-Spriggs AH, Mc Gregor G (2009) Disjunctions in the Diptera (Insecta) fauna of the Mediterranean Province and southern Africa and a discussion of biogeographical considerations. *Transactions of the Royal Society of South Africa* 64(1): 32–52. <https://doi.org/10.1080/00359190909519236>
- Klein O (1995) Untersuchungen zur Populationsdynamik und zur Verwendung von *Phytomyza orobanchia* in der biologischen Schädlingsbekämpfung von *Orobanche* spp. in Marokko. – Diplomarbeit, Universität Hohenheim, Institut für Pflanzenproduktion in den Tropen und Subtropen 1 + II + 99 + VIII pp. + 1 Bildtafel [Studies on the population dynamics and the use of *Phytomyza orobanchia* for the biological control of *Orobanche* spp. in Morokko].
- Klein O, Kroschel J, Sauerborn J (1995) *Phytomyza orobanchia* Kalt. (Diptera: Agromyzidae) in Morocco and its potential use for biological control of *Orobanche* spp. – XIII International Plant Protection Congress, The Hague, The Netherlands, 2–7 July 1995. *European Journal of Plant Pathology*, Abstracts no. 528.
- Klein O, Kroschel J, Sauerborn J (1999) Efficacité de lâchers périodiques de *Phytomyza orobanchia* Kalt. (Diptera: Agromyzidae) pour la lutte biologique contre l'*Orobanche* au Maroc. In: Kroschel J, Betz H, Abderahibi M (Eds) *Advances in Parasitic Weed Control at On-farm Level. Vol. II. Joint Action to control Orobanche in the WANA region*. Margraf Verlag, Weikersheim, Germany, IX + 347 pp.
- Klein O, Kroschel J (2002) Biological control of *Orobanche* spp. with *Phytomyza orobanchia*, a review. *BioControl* 47(3): 245–277. <https://doi.org/10.1023/A:1014862302818>
- Knight KL (1971) Comparative anatomy of the mandible of the fourth instar mosquito larva (Diptera, Culicidae). *Journal of Medical Entomology* 8: 189–205. <https://doi.org/10.1093/jmedent/8.2.189>
- Knutson LV (1981) New combinations and synonymies in Palaearctic and Nearctic Sciomyzidae (Diptera). *Proceedings of the entomological Society of Washington* 83: 332–338.
- Knutson LV, Vala JC (2011) *Biology of Snail-killing Sciomyzidae Flies*. Cambridge University Press, New York, xix + 506 pp.
- Koçak AÖ, Kemal M (2010) Synonymic and distributional list of the pterygot of Morocco (results of the Entomofauna of the World, based upon info-system of the Cesa): 1946–1979. *PRIAMUS. Serial Publication of the Center for Entomological Studies, Ankara*, Supplement 18, 3187 pp.
- Koçak AÖ, Kemal M (2013a) *Diptera of Turkey*. *PRIAMUS, Serial Publication of the Centre for Entomological Studies, Ankara* 28, 411 pp.
- Koçak AÖ, Kemal M (2013b) *Tephritidae in Turkey. An evaluation of its status from various standpoints (Diptera)*. *Centre for Entomological Studies Ankara. Cesa News* 86: 1–50.
- Korneyev VA, Evstigneev DA, Karimpour Y, Kütük M, Mohamadzade Namin S, Ömür Koyuncu M, Yaran M (2013) Revision of the *Terellia virens* group (Diptera, Tephritidae) with

- description of three new species. Vestnik zoologii 47(1): 3–25. <https://doi.org/10.2478/vzoo-2013-0001>
- Kovalev VG (1970) A redescription of the type specimen of *Drapetis* (s. str.) *laevis* Diptera Empididae from Tangier, Morocco. Entomological Review 49(3): 688–690.
- Kowarz F (1892) Die europäischen Arten der Dipterengattung *Lispa* Latr. Wiener entomologische Zeitung 11: 33–54. <https://doi.org/10.5962/bhl.part.27698>
- Kozlowsky S, Rungs C (1932) Sur quelques insectes ennemis des plantes maraichères au Maroc. Bulletin de la Société des sciences naturelles du Maroc 12: 66–68.
- Kozlovsky S, Rungs C (1933) Note sur *Depressaria cynarivora* Meyr., ravageur du *Cynara scolymus* (artichaut) au Maroc. Bulletin de la Société des sciences naturelles du Maroc 12: 101–103.
- Kremer M, Hommel M, Bailly-Choumara H (1971) Troisième contribution à l'étude faunistique des *Culicoides* du Maroc. Annales de Parasitologie (Paris) 46(5): 661–670. <https://doi.org/10.1051/parasite/1971465661>
- Kremer M, Rebholtz-Hirtzel C, Bailly-Choumara H, Délecolle JC (1975) Quatrième contribution à l'étude faunistique des *Culicoides* (Diptera, Ceratopogonidae) du Maroc. Description de *C. landauae* n. sp. (Diptera, Ceratopogonidae). Redescription de *C. faghihi* Navai et d'une forme de *C. subfascipennis* Kieffer. Cahiers ORSTOM, Série Entomologie médicale et Parasitologie 13(4): 205–214.
- Kremer M, Délecolle JC, Bailly-Choumara H, Chaker E (1979) Cinquième contribution à l'étude faunistique des *Culicoides* (Diptera, Ceratopogonidae) du Maroc. Description de *C. calloti* n. sp. Cahiers ORSTOM, Série Entomologie médicale et Parasitologie 17(3): 195–199.
- Krimbas CD, Loukas M (1980) The Inversion Polymorphism of *Drosophila subobscura*. Evolutionary Biology 12: 163–234. [https://doi.org/10.1007/978-1-4615-6959-6\\_4](https://doi.org/10.1007/978-1-4615-6959-6_4)
- Krivosheina MG (1998) A revision of the shore-fly genus *Notiphila* Fallén of Palaearctic (Diptera, Ephydriidae). An International Journal of Dipterological Research 9(1): 31–63.
- Kröber O (1913) Monographie der paläarktischen und afrikanischen Thereviden. (Dipt.) [part]. Deutsche Entomologische Zeitschrift 1: 17–32. <https://doi.org/10.1002/mmnd.48019120102>
- Kröber O (1915) Die afrikanischen Arten der Gattung *Conops*. Archiv für Naturgeschichte (Abteilung A): 35–68. [Berlin]
- Kröber O (1916) Die *Myopa*-Arten der nicht-palaearktischen Region. Archiv für Naturgeschichte (Abteilung A) 81: 23–39. [Berlin]
- Kröber O (1924) Ägyptische Dipteren aus den Familien der Conopidae, Omphralidae, und Therevidae. Bulletin de la Société royale entomologique d'Égypte 7: 57–116. [Kairo]
- Kröber O (1927) Beiträge zur Kenntnis der Conopidae. Konowia 6: 122–143. [Wien]
- Kröber O (1928) Neue Dipteren aus Ägypten aus den Familien Therevidae, Omphralidae und Conopidae. Bulletin de la Société royale entomologique d'Égypte: 43–84. [Kairo]
- Kröber O (1931) Nachträge zu meiner Arbeit: Die Conopidae Südafrikas in Annals of the Transvaal Museum XIV Part II. 1931. Konowia 12: 272–288.
- Kroschel J, Klein O (1999) Biological control of *Orobanche* spp. with *Phytomyza orobanchia* Kalt., a review. In: Kroschel J, Abderabihi M, Betz H (Eds) Advances in Parasitic Weed Control at On-farm Level. Vol. II. Joint Action to Control Orobanche in the WANA Region. Margraf Verlag, Weikersheim, Germany, 135–159. [ix + 347 pp]
- Kroschel J, Klein O (2003) Biological control of *Orobanche* spp. in the Near East and North Africa by inundative releases of the herbivore *Phytomyza orobanchia*. Proceedings of Expert

- Consultation on IPM for *Orobanche* in Food Legume System in the Near East and North Africa, Rabat, 128 pp.
- Kügler J (1977) Neue Tachinidae aus Israel (Diptera). Stuttgarter Beiträge zur Naturkunde, Serie A (Biologie) 301: 1–14.
- Kügler J, Wool D (1968) Chironomidae (Diptera) from the Hula Nature Preserve Israel. Annales Zoologici Fennici 5: 76–83.
- Kügler J, Reiss F (1973) Die triangularis-Gruppe der Gattung *Tanytarsus* v.d.w. (Chironomidae, Diptera). Entomologisk Tidskrift 94: 59–82.
- Kurahashi H (1971) The tribe Calliphorini from Australian and Oriental Regions. II. *Calliphora*-group (Diptera: Calliphoridae). Pacific Insects 13(1): 141–204.
- Kurahashi H, Magpayo FR (2000) Blow flies (Insecta: Diptera: Calliphoridae) of the Philippines. The Raffles Bulletin of Zoology, Supplement 9, 78 pp.
- Kuznetzov SY (1997) Five new Palaearctic Syrphidae (Diptera). International Journal of Dipterological Research 8(4): 199–213.
- Laboudi M, Faraj C, Sadak A, Azelmate M, Rhajaoui M, El Aouad R (2012) Some environmental factors associated with *Anopheles labranchiae* larval distribution during summer 2009, in Larache Province, Morocco. African Entomology 20(2): 229–238. <https://doi.org/10.4001/003.020.0211>
- Laboudi M, Sadak A, Ouahabi S, Daniela Boccolini D, Faraj C (2014) Molecular characterization of *Anopheles maculipennis* complex (Diptera: Culicidae) in Northern Morocco. Faunistic Entomology 67: 37–42
- Lackschewitz P (1940a) Die palaarktischen Rhamphidiinen und Eriopterinen des Wiener Naturhistorischen Museums. Annalen des Naturhistorischen Museums Wien 50: 1–67.
- Lackschewitz P (1940b) Die palaarktischen Limnophilinen, Anisomerinen und Pediciinen des Wiener Naturhistorischen Museums. Annalen des Naturhistorischen Museums Wien 50: 68–122.
- Lahmar M, Zeouienne M (1992) Données Bio-Ecologiques et importance des dégâts de la mineuse du pois-chiche (*Liriomyza cicerina* Rondani) au Maroc. Al Awamia 72: 108–118.
- Lair X (2013) Les Diptères. In: Courtial C (Coord.) Invertébrés continentaux du littoral sableux breton, poursuite de l'inventaire des dunes et des plages sableuses, évaluation de l'impact d'activités humaines et valorisation des résultats. Contrat Nature, Rapport de synthèse. Conseil Régional de Bretagne, DREAL Bretagne, Conseils Généraux du Finistère, du Morbihan, des Côtes d'Armor et d'Ille-et-Vilaine, 93–120.
- Landolt PJ, Adams T, Thomas S, Rogg H (2012) Spotted wing *Drosophila*, *Drosophila suzukii* (Diptera: Drosophilidae), trapped with combinations of wines and vinegars. Florida Entomologist 95(2): 326–332. <https://doi.org/10.1653/024.095.0213>
- Langeron M (1938) Anophèles du Grand Atlas et de l'Anti Atlas marocain. Comptes Rendus des Sciences CCVIII, 260–262.
- Larhbali Y, Belghiti D, El Guamri Y, Lahlou O, El Kharrim K, Khamri Z, El Madhi Y (2010) Sensibilité de deux moustiques Culicidés (*Anopheles labranchiae* et *Culex pipiens*) aux insecticides. Bulletin de la Société de Pharmacie de Bordeaux 149: 33–42.
- Larhbali Y, Belghiti D, El Guamri Y, Lahlou O, El Kharrim K, Kirami A, Khamri Z (2011) Cartographie de la faune culicidienne dans la province de Khémisset. Science Lib, Editions Mersenne, 3 (110603), 7 pp.



- Larhballi Y, Belghiti D, El Guamri Y, Lahlou O, El Kharrim K, Kirami A, Khamri Z (2014) Situation épidémiologique du paludisme importé et étude entomologique des gîtes larvaires de localités à risque potentiel dans la province de Khémisset (Maroc). *Médecine et Santé Tropicales* 24: 397–402. <https://doi.org/10.1684/mst.2014.0388>
- Larruga JM, Cabrera VM, González AM, Gullón A (1983) Molecular and chromosomal polymorphism in continental and insular populations from the southwestern range of *Drosophila subobscura*. *Genetica* 60: 191–205. <https://doi.org/10.1007/BF00122374>
- Latorre A, Moya A, Ayala FJ (1986) Evolution of mitochondrial DNA in *Drosophila subobscura*. *Proceedings of the National Academy of Sciences of the United States of America* 83: 8649–8653. <https://doi.org/10.1073/pnas.83.22.8649>
- Latorre A, Hernandez C, Martinez D, Castro JA, Ramon M, Moya A (1992) Population structure and mitochondrial DNA gene flow in Old World populations of *Drosophila subobscura*. *Heredity* 68: 15–24. <https://doi.org/10.1038/hdy.1992.2>
- Laville H, Reiss F (1988) *Rheomus*, un nouveau genre du complexe *Harnischia* avec deux nouvelles espèces d'Afrique du Nord (Diptera, Chironomidae). *Spixiana Supplement* 14: 183–190.
- Laville H, Reiss F (1993) The Chironomid fauna of the mediterranean region reviewed. *Journal of Aquatic Ecology* 26(2–4): 239–245. <https://doi.org/10.1007/BF02255247>
- Laville H, Langton P (2002) The lotic Chironomidae (Diptera) of Corsica (France). *Annales de Limnology* 38(1): 53–64. <https://doi.org/10.1051/limn/2002006>
- Lebard T, Haenni JP, Martinez M (2020) Note sur la présence de *Chorisops tunisiae* (Becker, 1915) en France et de *Chorisops masoni* Troaino & Toscano, 1995 en France et en Espagne (Diptera, Stratiomyidae). *Revue française d'entomologie générale* 2(5–6): 94–106.
- Leclercq M (1960) Tabanidae (Dipt.) du Maroc. I. *Pangonius raclinae* n. sp. Note sur *Silvius singularis* Meigen. *Bulletin de la Société des sciences naturelles et physiques du Maroc* 40: 297–302.
- Leclercq M (1961a) Syrphidae (Diptera) du Maroc. I. Extrait des Bulletins et annales de la Société entomologique de Belgique 97: 241–244.
- Leclercq M (1961b) Tabanidae (Dipt.) du Maroc. II. *Bulletin de l'Institut agronomique et des Stations de Recherches de Gembloux* 29(2): 138–147.
- Leclercq M (1967) Tabanidae (Diptera) du Maroc, III. Description de *Tabanus choumarae* n. sp. *Cah. ORSTOM. Série Entomologie médicale* 5(2): 127–131.
- Leclercq M (1968) Tabanidae (Diptera) du Maroc. IV. Diagnose de *Pangonius hassani* n. sp. *Bulletin des Recherches agronomiques de Gembloux* 3: 703–711.
- Leclercq M (1986) Diptera: Family Tabanidae of Saudi Arabia (part 2). *Fauna of Saudi Arabia* 8: 340–343.
- Leclercq M, Olsufjev NG (1975) Catalogue des Tabanidae (Diptera) Paléarctiques. *Bulletin & Annales de la Société royale belge d'entomologie* 111: 25–36.
- Leclercq M, Maldès JM (1987) Inventaire des Tabanidae d'Algérie et du Maroc et description d'une espèce nouvelle (Diptera Brachycera). *Nouvelle Revue d'Entomologie (N.S.)* 4: 79–84.
- Leclercq M, Schacht W (1987) The Sciomyzidae of Morocco (Diptera, Sciomyzidae). *Entomofauna* 8(30): 449–451.
- Léger N, Rioux JA, Croset H, Soussi MC, Benmansour N (1974) Le «complexe» *Sergentomyia* (*Sergentomyia*) *antennata* (Newstead, 1912). Remarques systématiques et écologiques à propos de 948 exemplaires récoltés dans le Sud-marocain. *Annales de Parasitologie* 49(5): 577–591. <https://doi.org/10.1051/parasite/1974495577>



- Lehmann J (1970) Revision der europäischen Arten (Imagines und Puppen) der Gattung *Rheotanytarsus* Bause (Dipt, Chironomidae). Zoologischer Anzeiger 185: 345–378.
- Lehmann J (1981) Chironomidae (Diptera) aus Fließgewässern Zentralafrikas. II Teil: die Region um Kisangani, Zentralaire. Spixiana Supplement 5: 3–85.
- Lehr PA, Ghahari H, Ostovan H (2007) A contribution to the robber flies of subfamilies Stenopogoninae and Asilinae (Diptera: Asilidae) from Iran. Far Eastern Entomologist 173: 1–14.
- Lehrer AZ (1975) Deux nouvelles espèces paléarctiques du genre *Sarcophaga* Meigen (Diptera, Sarcophagidae). Bulletin et Annales de la Société royale belge d'entomologie 111(4–6): 102–108.
- Lehrer AZ (1976) Cinq espèces nouvelles pour la faune paléarctique des diptères Sarcophagidae. Annotationes zoologicae et botanicae Bratislava 115: 1–11.
- Lehrer AZ (2007a) Une nouvelle espèce paléarctique du genre *Rhinia* R.D. (Diptera, Calliphoridae). Fragmenta Dipterologica 10: 21–23.
- Lehrer AZ (2007b) Analyse des fausses et inconséquentes conceptions taxonomiques sur les genitalia mâles des Sarcophagidae et Calliphoridae (Diptera). Fragmenta Dipterologica 7: 1–28.
- Letana SD (2014) Taxonomy of black scavenger flies (Diptera: Sepsidae) from Luzon, Philippines. Philippines Science Letters 7(1): 155–170.
- Lhaloui S, El Houssaini K, Starks K (1988) Etude de la biologie et du niveau d'infestation de la mouche grise (*Phorbia coarctata* Fall.) sur les céréales au Maroc. Rapport d'activité 1987–88, Programme Aridoculture, INRA–NIAC–CRRA, Maroc, 2 pp.
- Lhaloui S, Buschman L, El Bouhssini M, Amri A, Hatchett JH, Keith D, Starks K, El Houssaini K (1992) Infestations of *Mayetiola* spp. (Diptera: Cecidomyiidae) in Bread Wheat, Durum Wheat and Barley: Results of the five annual Surveys in the major Cereal growing Regions of Morocco. Al Awamia 77: 21–53.
- Lhaloui S, El Bouhssini M, Amri A (2001) The Hessian fly in Morocco: Surveys, loss assessment, and genetic resistance in bread wheat. Bulletin of the International Organization of Biological Control for the “West Palaearctic Regional Section” 24(6): 101–107.
- Lhaloui S, El Bouhssini M, Naserlhaq N, Amri A, Nachit M, El Haddoury J, Jlibène M (2005) Les cécidomyies des céréales au Maroc: Biologie, dégâts et moyens de lutte, INRA Rabat, Maroc, 52 pp.
- Lhor Y, Khayli M, Bouslikhane M, El Harrak M, Fassi Fihri O (2015) Spatial and Seasonal Distribution of *Culicoides* Species in Morocco in relation to the Transmission of Blue-tongue Viruses. British Journal of Virology 2: 88–95. <https://doi.org/10.17582/journal.bjv/2015.2.6.88.95>
- Li X-y, Pape T, Zhang D (2019) *Gasterophilus flavipes* (Oestridae: Gasterophilinae): A horse stomach bot fly brought back from oblivion with morphological and molecular evidence. e. PLoS ONE 14(8): e0220820. [19 pp] <https://doi.org/10.1371/journal.pone.0220820>
- Likov L, Vujić A, Tubić NK, Dan M, Veličković N, Rojo S, Pérez-Bañón C, Veselić S, Barkalov A, Hayat R, Radenković S (2020) Systematic position and composition of *Merodon nigratarsis* and *M. avidus* groups (Diptera, Syrphidae) with a description of four new hoverfly species. Contributions to Zoology 89: 74–125. <https://doi.org/10.1163/18759866-20191414>
- Lindner E (1936) 18. Stratiomyiidae [part]. Lieferung 104. In: Lindner E (Ed.) Die Fliegen der paläarktischen Region. Band IV. E. Schweizerbart'sche Verlagsbuchhandlung (Erwin Nägele), Stuttgart, 218 pp.

- Lindner E (1939) Neue westpaläarktische Stratiomyiiden (Diptera). Zoologischer Anzeiger 127: 312–315.
- Lindner E (1949) Notizen zu einigen palaearktischen Stratiomyiiden des Münchener Museums. Entomon, Munich 1: 179–180.
- Lmimouni BE, Baba NE, Yahyaoui A (2004) Wound myiasis due to *Wohlfahrtia magnifica*. First human case in Morocco. Bulletin de la Société de pathologie exotique 97(4): 235–237.
- Loew H (1847) Dipterologische Beiträge. Zweiter Theil. Zu der öffentlichen Prüfung der Schüler des Königlichen Friedrich-Wilhelms-Gymnasiums, Posen [= Poznan], 50 pp.
- Loew H (1860) Dipteren-Fauna Sudafrika's. Erste Abtheilung. Abhandlungen des Naturwissenschaftlichen vereines für Sachsen und Thüringen in Halle 2: 57–402.
- Londt JGH (2009) A review of Afrotropical *Sisyrnodytes* Loew, 1856 (Diptera: Asilidae: Stenopogoninae). African Invertebrates 50(1): 137–183. <https://doi.org/10.5733/afin.050.0106>
- Londt JGH (2010) A Review of Afrotropical *Acnephalum* Macquart, 1838, Including the Reinstatement of *Sporadothrix* Hermann, 1907 and Descriptions of Two New Genera (Diptera: Asilidae: Stenopogoninae). African Invertebrates 51(2): 431–481. <https://doi.org/10.5733/afin.051.0212>
- Louah A (1995) Ecologie des Culicidae (Diptera) et état du paludisme dans la péninsule de Tanger. Thèse doctorat Es-Sciences, Faculté des Sciences, Tétouan, 266 pp.
- Louah A, Ramdani M, Saoud Y, Mahjour J (1995) Biotypologie de la faune culicidienne de la péninsule tingitane. Bulletin de l'Institut scientifique, Rabat 19: 93–102.
- Lyneborg L (1968) The genus *Acanthothereva* Ségué, 1935, with description of a new species from Algeria (Diptera, Therevidae). Journal of the Swiss Entomological Society 41: 1–4.
- Lyneborg L (1969) Some Micropezidae, Psilidae, Platystomidae, Otitidae, Pallopteridae, Odiinidae, Aulacigasteridae, Atelestidae and Milichiidae (Diptera) collected in Southern Spain, with descriptions of six new species. Entomologiske Meddelelser 37: 27–46.
- Lyneborg L (1989) Family Therevidae. In: Soós Á, Papp L (Eds) Catalogue of Palaearctic Diptera. Vol. 6: Therevidae – Empididae. Akadémiai Kiadó, Budapest, 11–35. [435 pp]
- Lyneborg L (2002) A New Species of *Phycus* (Dipt., Therevidae) from Morocco. The Entomologist's Monthly Magazine 138: 11–13.
- Lyneborg L, Zaitzev VF (1980) *Hoplosathe*, a new genus of Palaearctic Therevidae (Diptera), with description of six new species. Entomologica scandinavica 11: 81–93. <https://doi.org/10.1163/187631280X00400>
- Maa TC (1963) Genera and species of Hippoboscidae: Types, synonymy, habitats and natural groupings. Pacific Insects Monographs 6: 1–186. <https://doi.org/10.1093/jmedent/1.1.4>
- Maa TC (1966) Studies in Hippoboscidae (Diptera): *Ornithoica zamicra*, *rabori*, *bistativa*, *tridens*, *simplicis*, *hovana*, *podargi*, *aequisenta*, *punctatissima*, *Pseudolynchia serratipes*, n. spp.; *Lobolepis*, n. subg, for *Ornithoica*. Addendum. Pacific Insects Monographs 10: 139–140.
- Maa TC (1969) A Revised checklist and concise host index of Hippoboscidae (Diptera). Pacific Insects Monographs 20: 261–299. <https://doi.org/10.1093/jmedent/6.2.146>
- Maarouf A (2003) Diptères Cyclorrhaphes et Brachycères nouveaux pour le Maroc. L'entomologiste 59(1–2): 41–47.
- Maarouf A, Chemseddine M (1995) Surveillance de l'infestation des céréales par la mouche noire (*Phorbia securis* Tiensuu; Diptera, Anthomyiidae). Ecologia mediterranea 21(3–4): 93–99. <https://doi.org/10.3406/ecmed.1995.1794>

- Maarouf A, Chemseddine M, Ramdani M (1996) Sur la mouche noire des céréales au Maroc *Phorbia securis* Tiensuu (Diptera, Anthomyiidae). L'entomologiste 52(1): 17–27.
- Maamri A, Pattee E, Dolédec S, Chergui H (2005) The benthic macroinvertebrate assemblages in the Zegzel–Cherraa, a partly temporary river system, Eastern Morocco. Annales de Limnologie – International Journal of Limnology 41(4): 247–257. <https://doi.org/10.1051/limn/2005017>
- MacGowan I, Freidberg A (2008) The Lonchaeidae (Diptera) of Israel, with descriptions of three new species. Israel Journal of Entomology 38: 61–92.
- Macquart M (1834–1835) Histoire naturelle des insectes. Diptères 1. Ouvrage accompagné de planches. Roret, Paris, 578 pp. <https://doi.org/10.5962/bhl.title.14274>
- Macquart J (1842) Diptères exotiques nouveaux ou peu connus. Tome deuxième. 2<sup>ème</sup> partie. Mémoire de la Société Royale des sciences, de l'agriculture et des arts de Lille 1841(1): 65–200.
- Maldès JM (2000) Confirmation de la présence au Maroc de *Satanas gigas* (Eversmann, 1855) et quelques compléments sur sa biologie (Diptera: Asilidae). Bulletin de la Société entomologique de France 105(4): 426–426. <https://doi.org/10.3406/bsef.2000.16700>
- Mannheims B (1951) 15. Tipulidae. In: Lindner E (Ed.) Die Fliegen der palaearktischen Region 3(2), Lief. 167: 1–64. [Stuttgart]
- Mannheims B (1952) 15. Tipulidae. In: Lindner E (Ed.) Die Fliegen der palaearktischen Region 3(2), Lief. 170: 65–112. [Stuttgart]
- Mannheims B (1963) Eine *Tipula* der ostasiatischen *sempiterna*-Gruppe in Finnland (Dipt., Tipulidae). Notulae entomologicae 43: 69–74.
- Mannheims B (1964) Zur Synonymie der europäischen Tipuliden (Dipt.), IX. Bonner zoologische Beiträge 15: 109–113.
- Mannheims B (1967) 15. Tipulidae. In: Lindner E (Ed.) Die Fliegen der palaearktischen Region 3(2), Lief. 270: 257–288. [Stuttgart]
- Mannheims B (1968) 15. Tipulidae. In: Lindner E (Ed.) Die Fliegen der palaearktischen Region 3(5), Lief. 275: 289–320. [Stuttgart]
- Marc I, Chibani A, Alemad A, Alkhali A, Belala A, Hadji M, Belghyti D, El kharrim K (2016) Etude écologique et entomologique des Culicides larvaires des gîtes de la province de Kénitra (Maroc). European Scientific Journal 12(32): 398–409. <https://doi.org/10.19044/esj.2016.v12n32p398>
- Marcos-Garcia MA, Vujić A, Mengual X (2007) Revision of Iberian species of the genus *Mero-don* (Diptera: Syrphidae). European Journal of Entomology 104: 531–572. <https://doi.org/10.14411/eje.2007.073>
- Marshall SA (2012) Flies. The Natural History & Diversity of Diptera. Firefly Books, Richmond Hill, Ontario, 616 pp.
- Marshall SA, Roháček J, Dong H, Buck M (2011) The state of Sphaeroceridae (Diptera: Acalyptratae): a world catalog update covering the years 2000–2010, with new generic synonymy, new combinations, and new distributions. Acta Entomologica Musei Nationalis Pragae 51(1): 217–298.
- Mason F, Cerretti P, Nardi G, Whitmore D, Birtele D, Hardersen S, Gatti E (2006) Aspects of biological diversity in the CONECOFOR plots. IV. The Invertebrate Biodiversity pilot project. Annali dell'Istituto Sperimentale per la Selvicoltura 30(Supplement 2): 51–70.
- Mathis WN (1997) Shore Flies of the Belizean Cays (Diptera: Ephydriidae). Smithsonian Contributions to Zoology 592: 1–77. <https://doi.org/10.5479/si.00810282.592>

- Mathis WN, Zatwarnicki T (1990) A review of the western Palaearctic species of *Athyroglossa* (Diptera: Ephydriidae), Transactions of the American Entomological Society 116(1): 103–133.
- Mathis WN, Zatwarnicki T, Krivosheina MG (1993) Studies of Gymnomyzinae (Diptera: Ephydriidae), V: A Revision of the Shore-Fly Genus *Mosillus* Latreille, Smithsonian Contributions to Zoology 548, [iii +] 38 pp. <https://doi.org/10.5479/si.00810282.548>
- Mathis WN, Munari L (1996) World Catalog of the Family Tethinidae (Diptera). Smithsonian Contributions to Zoology 584: iv + 1–27. <https://doi.org/10.5479/si.00810282.584>
- Mathis WN, Sueyoshi M (2011) World Catalog and Conspectus of the Family Dryomyzidae (Diptera: Schizophora). Myia 12: 207–233.
- Mathis WN, Zatwarnicki T (2002) A Phylogenetic Study of the Tribe *Dryxini* Zatwarnicki (Diptera: Ephydriidae). Smithsonian Contributions to Zoology 617. Smithsonian Institution Press, Washington DC, 112 pp. <https://doi.org/10.5479/si.00810282.617>
- Mathis WN, Zatwarnicki T (2012) Revision of New World Species of the Shore-fly Subgenus *Allotrichoma* Becker of the Genus *Allotrichoma* with Description of the Subgenus *Neotrichoma* (Diptera, Ephydriidae, Hecamedini). ZooKeys 161: 1–101. <https://doi.org/10.3897/zookeys.161.2016>
- Matile L (1986) L'identité du «ver de la tipule de l'Agaric» de Réaumur, et notes taxonomiques sur les *Keroplatus* paléarctiques (Diptera, Mycetophiloidea, Keroplatidae). Annales de la Société entomologique de France 22(3): 353–367.
- Maurice TJ (1947) The flies that cause myiasis in man. Miscellaneous publication №631. United States Department of Agriculture, 173 pp.
- Médail F, Quézel P (1999) Biodiversity hotspots in the Mediterranean Basin: setting global conservation priorities. Conservation Biology 13: 1510–1513. <https://doi.org/10.1046/j.1523-1739.1999.98467.x>
- Medioni J (1958) Le comportement de *Drosophila melanogaster* Meigen dans un appareil à choix lumineux: étude comparative de souches sauvages de provenances géographiques diverses. Comptes rendus des séances de la Société de Biologie Paris 152: 1004–1007.
- Meigen JW (1820) Systematische Beschreibung der bekannten europäischen zweiflügeligen Insekten. Zweiter Theil. F.W. Forstmann, Aachen, [x +] 363 pp.
- Meigen JW (1830) Systematische Beschreibung bekannten europaeischen zweifliegeligen Insecten. Hamm 6, [iv,] 401 pp.
- Mellor PS, Pitzolis G (1979) Observations on breeding sites and light-trap collections of *Culicoides* during an outbreak of bluetongue in Cyprus. Bulletin of Entomological Research 69: 229–234. <https://doi.org/10.1017/S0007485300017697>
- Mellor PS, Boorman J, Baylis M (2000) *Culicoides* biting midges. Their role as arbovirus vectors. Annual Review of Entomology 45: 307–340. <https://doi.org/10.1146/annurev.ento.45.1.307>
- Mellor PS, Hamblin C (2004) African horse sickness. Veterinary Research 35: 445–466. <https://doi.org/10.1051/vetres:2004021>
- Mengual X (2018) A new species of *Ischiodon* Sack (Diptera, Syrphidae) from Madagascar. African Invertebrates 59(1): 55–73. <https://doi.org/10.3897/afrinvertebr.59.24461>
- Menozi P, Krimbas CB (1992) The inversion polymorphism of *D. subobscura* revisited: Synthetic maps of gene arrangement frequencies and their interpretation. Journal of Evolutionary Biology 5: 625–641. <https://doi.org/10.1046/j.1420-9101.1992.5040625.x>

- Menzel F, Heller K (2004) Sechs neue Arten aus den Gattungen *Bradysia*, *Camptochaeta* und *Corynoptera* (Diptera: Sciaridae) nebst einigen Bemerkungen zur Nomenklatur europäischer Trauermücken. *Studia dipterologica* 11: 335–357.
- Merz B (2004) Revision of the *Minettia fasciata* species-group (Diptera, Lauxaniidae). *Revue suisse de Zoologie* 111(1): 183–211. <https://doi.org/10.5962/bhl.part.80234>
- Mesnil LP (1939) Descriptions d'espèces de Tachinaires (Dipt., Larvaevoridae). *Bulletin et Annales de la Société royale belge d'entomologie* 79: 209–212.
- Mesnil LP (1946) Revision des Phorocerini de l'Ancien Monde (Larvaevoridae). *Encyclopédie entomologique (B II) Diptera* 10: 37–80.
- Mesnil LP (1950) Notes sur les *Carceliina* (Dipt., Tachinidae) et révision des espèces d'Afrique. *Revue de Zoologie et de Botanique Africaines* 43: 3–24.
- Mesnil LP (1952) Notes détachées sur quelques Tachinaires paléarctiques. *Bulletin et Annales de la Société royale belge d'entomologie* 88: 149–158.
- Mesnil LP (1951) Larvaevorinae (Tachininae), 64g. In: Lindner E (Ed.) *Die Fliegen der palaearktischen Region* 10(1): 554 pp. [+ 17 pls] [E. Schweizerbart, Stuttgart]
- Mesnil LP (1956) Larvaevorinae (= Tachininae), 64g. In: Lindner E (Ed.) *Die Fliegen der palaearktischen Region*: E. Schweizerbart, Stuttgart, 465–560.
- Mesnil LP (1959) Description de *Myothyria benoisti*, Larvaevorinae, Tachynina, Forêt de Mâamora. *Stuttgarter Beiträge zur Naturkunde* 23: 20.
- Mesnil LP (1965) Larvaevorinae (Tachininae), 10(2–3). In: Lindner E (Ed.) *Die Fliegen der palaearktischen Region*. E. Schweizerbart, Stuttgart, 555–1435.
- Messerlin A (1938) *L'Aedes mariae* au Maroc occidental. *Bulletin de la Société de pathologie exotique et de ses filiales* 31: 110–115.
- Messerlin A, Treillard M (1938) Sur une nouvelle station du groupe *Myzomyia* s. s. Anopheline en Afrique du Nord: A. *Myzomyia sergenti* Theobald au Maroc occidental. *Bulletin de la Société de pathologie exotique* 31: 107–109.
- Mestari M (1997) Les peuplements culicidiens de la ville de Mohammedia et des régions avoisinantes: caractérisation hydrologique et hydrochimique des principaux gîtes et dynamique spatio-temporelle. Thèse de doctorat de 3<sup>ème</sup> cycle, Faculté des Sciences, Rabat, 138 pp.
- Metge G (1986) Etude des écosystèmes hydromorphes (dayas et merjas) de la meseta marocaine: typologie et synthèse cartographique à objectif sanitaire appliquée aux populations d'*A. labbranchiae* (Falleroni, 1926). Thèse doctorat Es-Sciences, Aix-Marseille III, 245 pp.
- Metge G (1991) Contribution à l'étude d'*Anopheles maculipennis labbranchiae* au Maroc: activité des imagos et dynamique des stades préimaginaux dans la région de Sidi Bettache. *Bulletin d'Ecologie* 22(3–4): 419–426.
- Metge G, El Alaoui M (1987) Etude de la dynamique des populations d'*Aedes echinus* (Culicidae dendrolimnique) en écophase aquatique au Maroc. *Annales de Limnologie* 23(2): 129–134. <https://doi.org/10.1051/limn/1987009>
- Metge G, Belakoul M (1989) Colonisation d'un nouvel habitat par *Culex pipiens* (Diptera: Culicidae) le creux d'arbre des Subéraies en pays Zaer, Maroc. *Annales de Limnologie* 25(1): 73–80. <https://doi.org/10.1051/limn/1989009>
- Michelsen V (1980) The *Anthomyia pluvialis* complex in Europe (Diptera, Anthomyiidae). *Systematic Entomology* 5: 281–290. <https://doi.org/10.1111/j.1365-3113.1980.tb00416.x>

- Michelsen V, Báez M (1985) The Anthomyiidae (Diptera) of the Canary Islands. *Entomologica scandinavica* 16: 277–304. <https://doi.org/10.1163/187631285X00171>
- Mikuška A, Stjepan Krčmar S, Mikuska J (2008) Horseflies (Diptera: Tabanidae) of south-east Herzegovina (Bosnia and Herzegovina). *Entomologia Croatica* 12(2): 101–109.
- Mimeur JM (1949) Contribution à l'étude des Zoocécidies du Maroc. *Encyclopédie entomologique* 24. P. Le Chevalier, Paris, 259 pp.
- Mirceni RV, Pârnu C (2009) Distributional data on some east Mediterranean Brachycera (Diptera) [Results of the Euphrates" Expedition – 2008, in Turkey and Syria]. *Travaux du Muséum National d'Histoire Naturelle «Grigore Antipa»* 52: 429–436.
- Mohammadi DK, Khaghaninia S (2015) Additional notes about the soldier flies (Diptera, Stratiomyidae) of Varzqan region-Iran. *Entomofauna* 36(15): 209–216.
- Möhn E (1966) 6. Itonididae (= Cecidomyiidae). In: Lindner E (Ed.) *Die Fliegen der palaearktischen Region* 2(1), Lief. 269: 1–48.
- Möhn E (1971) 6. Itonididae (= Cecidomyiidae). In: Lindner E (Ed.) *Die Fliegen der palaearktischen Region* 2(1), Lief. 288: 201–248.
- Möhn E (1966–1971) 6.7. Cecidomyiidae (Itonididae). In: Lindner E (Ed.) *Die Fliegen der palaearktischen Region* 2. Lieferung 269, 273, 274, 277, 288: 1–248.
- Mohrig W, Menzel F (1992) Neue Arten europäischer Trauermücken (Diptera, Sciaridae). *International Journal of Dipterological Research* 3: 1–16.
- Mohrig W, Kauschke E, Menzel F, Jaschhof M (1997) Trauermücken von der Kanarischen Insel La Gomera und West-Marokko (Diptera, Sciaridae). *Berichte des Naturwissenschaftlich medizinischen Vereins in Innsbruck* 84: 379–390.
- Mohrig W, Heller K, Hippa H, Vilkamaa P, Menzel F (2012) Revision of the Black Fungus Gnats (Diptera: Sciaridae) of North America. *Studia dipterologica* 19: 141–286.
- Mohrig W, Heller K, Hippa H, Vilkamaa P, Menzel F (2013) Revision of the Black Fungus Gnats (Diptera: Sciaridae) of North America. *Studia dipterologica* 19: 141–286.
- Morgulis E, Freidberg A, Dorchin N (2016) Phylogenetic Revision of *Tephritomyia* Hendel (Diptera: Tephritidae), With Description of 14 New Species. *Annals of the Entomological Society of America* (2015) 109(4): 595–628. <https://doi.org/10.1093/aesa/saw026>
- Motamedinia B, Kehlmaier C, Mokhtari A, Rakhshani E, Gilasian E (2017) The genus *Dasydoryllas* Skevington in Iran, with the description of two new species (Diptera: Pipunculidae). *European Journal of Taxonomy* 362: 1–13. <https://doi.org/10.5852/ejt.2017.362>
- Moubayed-Breil J, Kettani K (2018) Description of *Rheotanytarsus langtoni* sp. n. from the Rif of north-western Morocco [Diptera, Chironomidae, Tanytarsini]. *Ephemera* 19(2): 83–94.
- Moubayed-Breil J, Kettani K (2019) *Rheocricotopus* (s. str.) *rifensis*, a new rheobiontic species from waterfalls located in the Moroccan Rif [Diptera: Chironomidae, Orthocladiinae]. *Ephemera* 20(2): 87–97.
- Mouna M (1998) Biodiversité des Invertébrés terrestres. In: *Étude Nationale sur la Biodiversité. Deuxième Rapport nationale sur la Biodiversité du Maroc*. Ministère de l'Environnement–PNUE [Programme des Nations Unies pour l'environnement], Rabat, iv + 125 pp.
- Mouna M (2010) Les recherches entomologiques au Maroc de 1792 à 2006. *Actes de la CIFE VI, Travaux de l'Institut Scientifique, Série Zoologie*, Rabat 47(1): 79–84.



- Moussalim S (1997) Zones humides naturelles et artificielles des régions nord-ouest marocaines; qualité hydrochimique et valeur biologique par l'analyse de la faune culicidienne. Thèse de doctorat de 3ème cycle, Faculté des Sciences, 138 pp.
- Moussiaux AN, Desmecht D (2008) Epidémiologie de l'infection par *Trypanosoma evansi*. Annales de Médecine Vétérinaire 152: 191–201.
- Moutia LA (1940) The search for parasites of white grubs (Melolonthids) in Zanzibar, Algeria, Morocco and France. Bulletin of Entomological Research London 31: 193–208. <https://doi.org/10.1017/S0007485300004971>
- Mulieri PR, Patitucci LD, Mariluis JM, Pape T (2010) Long-distance introduction: first New World record of *Stevenia deceptor* (Loew) and a key to the genera of New World Rhinophoridae (Diptera). Zootaxa 2524: 66–68. <https://doi.org/10.11646/zootaxa.2524.1.6>
- Müller GC, Hogsette JA, Revay EE, Kravchenko VD, Leshvanov A, Schlein Y (2011) New records for the horse fly fauna (Diptera: Tabanidae) of Jordan with remarks on ecology and zoogeography. Journal of Vector Ecology 36(2): 447–450. <https://doi.org/10.1111/j.1948-7134.2011.00186.x>
- Müller GC, Zeegers T, Hogsette J, Revay EE, Kravchenko V, Leshvanov A, Schlein Y (2012) An annotated checklist of the horseflies (Diptera: Tabanidae) of Lebanon with remarks on ecology and zoogeography: Pangoniinae and Chrysopsinae. Journal of Vector Ecology 37 (1): 216–220. <https://doi.org/10.1111/j.1948-7134.2012.00219.x>
- Munari L (1993) Limosininae from Maghreb and Middle East collected by A. Giordani Soika (Diptera, Sphaeroceridae). Bolletino della Società Entomologica Italiana, Genova 125(2): 150–156.
- Munari L (1997) New records of Tethinidae (Diptera) with description of *Tethina mariae* sp. nov. from Morocco. Società Veneziana di Scienze Naturali-Lavori 22: 29–34.
- Munari L (2002) Beach Flies (Diptera: Tethinidae) of the Palaearctic Region: an Annotated Checklist, including World Distribution. Società Veneziana di Scienze Naturali-Lavori, 27: 17–25.
- Munari L (2004) On some species of Tethinidae from Morocco and Cape Verde Islands. Bollettino del Museo civico di Storia naturale di Venezia 55: 107–113.
- Munari L (2005) Species of *Tethina* Haliday from the Sahara and inland biotopes of the Mediterranean subregion (Diptera: Tethinidae). Stuttgarter Beiträge zur Naturkunde, Serie A (Biologie) 683: 1–11.
- Munari L (2010) Canacidae and Australimyziidae (Diptera) collected by Danish Scientific Expeditions and by N.L.H. Krauss, with descriptions of four new species. Steenstrupia 32(1): 51–68.
- Munari L (2011) The Euro-Mediterranean Canacidae (including Tethinidae): keys and remarks to genera and species (Insecta, Diptera). Bollettino del Museo civico di Storia naturale di Venezia 62: 55–86.
- Munari L, Báez M (2000) The Tethinidae of Macaronesia: A faunal revision, with descriptions of two new species (Diptera). Bollettino del Museo civico di Storia naturale di Venezia (1999) 50: 3–30.
- Munari L, Bramuzzo S (2018) A Catalogue of the Canacidae housed in the Diptera Collection of the Natural History Museum of Venice (Italy) (Diptera, Brachycera, Carnoidea). Bollettino del Museo di Storia naturale di Venezia 69: 27–42.
- Munari L, Mathis WN (2010) World Catalog of the Family Canacidae (including Tethinidae) (Diptera), with keys to the supraspecific taxa. Zootaxa 2471: 1–84. <https://doi.org/10.11646/zootaxa.2471.1.1>

- Murray DA (1980) *Telopelopia maroccana* sp. n. a second palaearctic species of *Telopelopia* Roback (Diptera, Chironomidae). Acta Universitatis Carolinae. Serie Biologica (1978) 12: 151–156.
- Naber M, El Bouhssini M, Labhilili M, Udupa SM, Nachit MM, Baum M, Lhaloui S, Benslimane A, El Abbouyi H (2000) Genetic variation among populations of the Hessian fly *Mayetiola destructor* (Diptera: Cecidomyiidae) in Morocco and in Syria. Bulletin of Entomological Research 90: 245–252. <https://doi.org/10.1017/S0007485300000365>
- Naber N, El Bouhssini M, Lhaloui S (2003) Biotypes of Hessian fly (Diptera; Cecidomyiidae) in Morocco. Journal of Applied Entomology 127: 174–176. <https://doi.org/10.1046/j.1439-0418.2003.00738.x>
- Naderloo M, Pashaei Rad Sh, Taghaddosi MV (2001) Faunistic study on hover flies (Diptera: Syrphidae) in the eastern part of Zanzan province, Iran. Journal of Entomological Research 4(4): 313–323.
- Nagatomi A (1982) Geographical distribution of the lower Brachycera (Diptera). Pacific Insects 24(2): 139–150.
- Naglis S (2009) New records of Sympycninae (Diptera, Dolichopodidae) from Turkey, with the description of a new species of *Teuchophorus*. Bulletin de la Société entomologique suisse 82: 173–180.
- Naglis S, Barták M (2015) Dolichopodidae (Diptera) from the Iberian Peninsula, with description of three new species. Zootaxa 3964(1): 125–137. [ISSN: 1175-5326]
- Nardon C, Deceliere G, Loevenbruck C, Weiss M, Biemont C (2005) Is genome size influenced by colonization of new environments in dipteran species? Molecular Ecology 14: 869–878. <https://doi.org/10.1111/j.1365-294X.2005.02457.x>
- Nartshuk EP (1979) Novij vid dvukrilikh roda *Cryptochetum* Rd. (Diptera, Cryptochetidae) parazit tshervetsov iz srednei azii. Trudy Zoologicheskogo Instituta. Leningrad 88: 120–123. [in Russian]
- Nartshuk EP (1984) Family Chloropidae. In: Soós Á, Papp L (Eds) Catalogue of Palaearctic Diptera. Vol. 10: Clusiidae – Chloropidae. Akadémiai Kiadó, Budapest, 222–298. [402 pp]
- Nartshuk EP (1988) Family Acroceridae. In: Soós Á, Papp L (Eds) Catalogue of Palaearctic Diptera. Vol. 5: Athericidae – Asilidae. Akadémiai Kiadó, Budapest, 186–196. [446 pp]
- Nartshuk EP (1995) A new species of *Cetema* Hendel with reference to the distribution of the genus (Insecta, Diptera, Chloropidae), Spixiana 18(3): 277–281.
- Naya A (1988) Peuplements chironomidiens (Diptera) du bassin du Haut et Moyen Sebou: Biotypologie et valeurs Bio-indicatrices. Thèse 3<sup>ème</sup> cycle. Université Mohammed V. Rabat (Maroc), 127 pp.
- Negrobov OP (1971) Revision of Palaearctic species of the genus *Thinophilus* Whlbg. (Diptera, Dolichopodidae). Entomologicheskoe Obozrenie 50(4): 896–910. [In Russian; English translation: Entomological Review, 1971, 50(4): 511–519]
- Negrobov OP (1979) 29. Dolichopodidae Hydrophorinae. In: Lindner E (Ed.) Die Fliegen der palaarktischen Region 4(5). E. Schweizerbart'sche Verlagsbuchhandlung, Stuttgart, Lief. 321: 419–474. [taf. CLXXIV–LXXXVII, figs 1422–1659]
- Negrobov OP (1991) Family Dolichopodidae. In: Soós Á, Papp L (Eds) Catalogue of Palaearctic Diptera. Vol. 7. Dolichopodidae – Platypetidae. Budapest, Akadémiai Kiadó, 11–139. <https://doi.org/10.1016/B978-0-444-98731-0.50008-9>



- Negrobov OP, Satô M, Selivanova OV (2012) New species of the genus *Argyra* Macquart, 1834 (Diptera, Dolichopodidae) from the Russian Far East and Japan. *Far Eastern Entomologist* 247: 1–7.
- Negrobov OP, Naglis S (2016) Palearctic species of the genus *Medetera* (Diptera: Dolichopodidae). *Zoosystematica Rossica* 25(2): 333–379. <https://doi.org/10.31610/zsr/2016.25.2.333>
- Nigro L (1988) Natural populations of *Drosophila simulans* show great uniformity of the mitochondrial DNA restriction map. *Genetica* 77: 133–136. <https://doi.org/10.1007/BF00057763>
- Nikookar SH, Moosa-Kazemi SH, Oshaghi MA, Yaghoobi-Ershadi MR, Vatandoost H, Kianinasab A (2010) Species Composition and Diversity of Mosquitoes in Neka County, Mazandaran Province, Northern Iran. *Iran Journal of Arthropod-Borne Diseases* 4(2): 26–34.
- Norrbom AL, Carroll LE, Thompson FC, White IM, Freidberg A (1999) Systematic Database of Names. In: Thompson FC (Ed.) *Fruit Fly Expert Identification System and Systematic Information Database*. *Myia* (1998) 9: 65–251.
- Norrbom AL (2004) Updates to Biosystematic Database of World Diptera for Tephritidae through 1999. *Diptera Data Dissemination Disk* 2.
- Nourti M, Grichanov IYa, Kettani K (2019a) New records of long-legged flies (Diptera, Dolichopodidae) from Morocco. *Acta Biologica Sibirica* 5(3): 118–130. <https://doi.org/10.14258/abs.v5.i3.6514>
- Nourti M, Grichanov IYa, Kettani K (2019b) A new species of *Teuchophorus* Loew, 1857 (Dolichopodidae, Diptera) from Morocco. *Nature Conservation Research* 4(4): 106–110. <https://doi.org/10.24189/ncr.2019.064>
- Nourti M, Kettani K, Grichanov IYa (2019c) Faunistic notes on the genus *Sciapus* Zeller (Diptera, Dolichopodidae) of Morocco. *Amurian Zoological Journal* vol. XI, no. 4, 309–313. <https://doi.org/10.33910/2686-9519-2019-11-4-309-313>
- Nsarellah N, Amri, A, Nachit M, El Bouhssini M, Lhaloui S (2003) New durum wheat with Hessian fly resistance from *Triticum araraticum* and *Triticum carthlicum* in Morocco. *Plant Breeding* 122: 435–437. <https://doi.org/10.1046/j.1439-0523.2003.00871.x>
- Nsarella N, Lhaloui S (2006) Les variétés de blé résistantes à la cécidomyie/ nouvel atout pour la céréaliculture au Maroc. *Bulletin mensuel d'information et de liaison du PNTTA* 140: 1–4.
- Olafsson E (1991) Taxonomic revision of western Palearctic species of the genera *Scatella* R.-D. and *Lamproscatella* Hendel, and studies on their phylogenetic position within the subfamily Ephydrinae (Diptera: Ephydridae). *Entomologica scandinavica Supplement* 37: 100 pp.
- Oldroyd H (1957) The genus *Sisyrnodytes* Loew (Diptera: Asilidae). *Proceedings of the Royal Entomological Society B* 26(5–6): 79–88. <https://doi.org/10.1111/j.1365-3113.1957.tb00383.x>
- Oldroyd H (1980) Family Asilidae. In: Crosskey RW (Ed.) *Catalogue of the Diptera of the Afrotropical Region*. London: British Museum (Natural History), 334–373, 1218, 1226, 1229.
- Omelková M, Ježek J (2012a) A new species of the genus *Trichomyia* (Diptera: Psychodidae) and new faunistic data on non-phlebotomine moth flies from the Podyjí NP and its surroundings (Czech Republic). *Acta Entomologica Musei Nationalis Pragae* 52(2): 505–533.

- Omelková M, Ježek J (2012b) Two new species of *Pneumia* Enderlein (Diptera, Psychodidae, Psychodinae) from the Palearctic region. *Zootaxa* 3180: 1–18. <https://doi.org/10.11646/zootaxa.3180.1.1>
- Oosterbroek P (1978) The western Palearctic species of *Nephrotoma* Meigen, 1803 (Diptera, Tipulidae), part 1. *Beaufortia* 27: 1–137.
- Oosterbroek P (1979a) The western Palearctic species of *Nephrotoma* Meigen, 1803 (Diptera, Tipulidae), part 2. *Beaufortia* 28: 57–111.
- Oosterbroek P (1979b) The western Palearctic species of *Nephrotoma* Meigen, 1803 (Diptera, Tipulidae), part 4, including a key to the species. *Beaufortia* 29: 129–197.
- Oosterbroek P (1982) New taxa and data of western Palearctic *Nephrotoma* (Diptera, Tipulidae). *Entomologische berichten* 42: 41–44.
- Oosterbroek P (1994a) Notes on western Palearctic species of the *Tipula* (*Yamatotipula*) *lateralis* group, with the description of a new species from Turkey (Diptera: Tipulidae). *European Journal of Entomology* 91: 429–435.
- Oosterbroek P (1994b) Biodiversity of the Mediterranean Region. In: Forey PL, Humphries CJ, Vane-Wright RI (Eds) *Systematics and Conservation Evaluation*. Systematic Association, Special Volume 50, 289–307.
- Oosterbroek P (2007) Diptera, Tipulidae. In: Nardi G, Vomero V (Eds) *Artropodi del Parco Nazionale del Vesuvio: Ricerche preliminari*. *Conservazione Habitat Invertebrati* 4: 377–454.
- Oosterbroek P (2009) New distributional records for Palearctic Limoniidae and Tipulidae (Diptera: Craneflies), mainly from the collection of the Zoological Museum, Amsterdam. In: Lantsov V (Ed.) *Crane flies. History, taxonomy and ecology* (Diptera: Tipulidae, Limoniidae, Pediciidae, Trichoceridae, Ptychopteridae, Tanyderidae). Memorial volume dedicated to Dr. Charles Paul Alexander (1889–1981), Dr. Bernhard Mannheims (1909–1971) and Dr. Evgeniy Nikolaevich Savchenko (1909–1994). *Zoosymposia* 3: 179–197. <https://doi.org/10.11646/zoosymposia.3.1.15>
- Oosterbroek P (2011) The Craneflies of Sardinia (Diptera: Tipulidae). *Conservazione Habitat Invertebrati* 5: 641–658.
- Oosterbroek P (2020) Catalogue of the Craneflies of the World (CCW). <http://nlbif.eti.uva.nl/ccw/> [accessed March 2020]
- Oosterbroek P, Arntzen JW (1992) Area-cladograms of Circum-Mediterranean taxa in relation to Mediterranean palaeogeography. *Journal of Biogeography* 19: 3–20. <https://doi.org/10.2307/2845616>
- Oosterbroek P, Theowald Br (1992) Family Tipulidae. In: Soós Á, Papp L (Eds) *Catalogue of Palearctic Diptera*. Vol. 1: Trichoceridae – Nymphomyiidae. Akadémiai Kiadó, Budapest, 56–178. [520 pp]
- Oosterbroek P, Lantsov V (2011) Review of the Western Palearctic species of *Dolichopeza* Curtis (Diptera, Tipulidae). *Tijdschrift voor Entomologie* 154: 269–281. <https://doi.org/10.1163/004074912X13397496980987>
- Osborne RS, Leppla NC, Osborne LS (2002) Predatory Gall Midge (unofficial common name), *Feltiella acarisuga* (Vallot) (Insecta: Diptera: Cecidomyiidae). University of Florida, EENY-269, 4 pp.

- Ovazza M, Camicas JL, Pichon G (1968) Notes pour une révision systématique de l'espèce *Atylotus agrestis* (Wiedemann, 1828) Diptera: Tabanidae. Cahiers ORSTOM, Série Entomologie médicale 6(1): 3–14.
- Özdikmen H (2008) *Turka* nom. nov., for the preoccupied Palearctic robber flies genus *Turkiella* Lehr, 1996 (Diptera: Asilidae). Munis Entomology & Zoology 3(2): 554–555.
- Ozerov AL (2005) World catalogue of the family Sepsidae (Insecta: Diptera). Zoologicheskie issledovania 8, 74 pp.
- Pandey VS, Ouhelli H, Verhulst A (1992) Epidemiological observations on *Gasterophilus intestinalis* and *G. nasalis* in donkeys from Morocco. Veterinary Parasitology 41(3–4): 285–292. [https://doi.org/10.1016/0304-4017\(92\)90087-P](https://doi.org/10.1016/0304-4017(92)90087-P)
- Pape T (1996) Catalogue of the Sarcophagidae of the world (Insecta: Diptera). Memoirs of Entomology International 8: 1–558.
- Pape T, Blagoderov V, Mostovski MB (2011) Order DIPTERA Linnaeus, 1758. In: Zhang ZQ (Ed.) Animal biodiversity: An outline of higher-level classification and survey of taxonomic richness. Zootaxa 3148: 222–229. <https://doi.org/10.11646/zootaxa.3148.1.42>
- Pape T, Szpila K (2012) Taxonomy and nomenclature of *Eremasiomyia macularis* and *Miltogramma maroccana* (Diptera: Sarcophagidae: Miltogramminae). The Canadian Entomologist 144: 169–181. <https://doi.org/10.4039/tce.2012.14>
- Pape T, Thompson FC [Eds] (2019) Systema Dipterorum (version 2.0, Jan 2011). In: Roskov Y, Abucay L, Orrell T, Nicolson D, Bailly N, Kirk PM, Bourgoin T, DeWalt RE, Decock W, De Wever A, Nieukerken E, van Zarucchi J, Penev L (Eds) Species 2000 & ITIS Catalogue of Life, 29<sup>th</sup> September 2017. Digital resource at [www.catalogueoflife.org/col](http://www.catalogueoflife.org/col). Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405–8858. [accessed September 2019]
- Papp L (1984a) Family Sphaeroceridae. In: Soós Á, Papp L (Eds) Catalogue of Palearctic Diptera. Vol. 10: Clusiidae – Chloropidae. Akadémiai Kiadó, Budapest, 68–107. [402 pp]
- Papp L (1984b) Family Milichiidae. In: Soós Á, Papp L (Eds) Catalogue of Palearctic Diptera. Vol. 10: Clusiidae – Chloropidae. Akadémiai Kiadó, Budapest, 110–118. [402 pp]
- Papp L (2007) Further Diptera species new for Hungary. Folia entomologica hungarica Rovartani Kozlemenyek 68: 111–122.
- Paramonov SJ (1945) Bestimmungstabelle der palaearktischen *Nemestrinus* Arten (Nemestrinidae, Diptera) (Nebst Neubeschreibungen und Kritischen Bemerkungen). EOS-Revista Española de Entomología 21(3–4): 279–295.
- Paramonov SJ (1947) Uebersicht der mit der gattung *Usia* latr. (Bombyliidae, Diptera) naechstverwandten gattungen. EOS-Revista Española de Entomología 23(3): 205–220.
- Paramonov SJ (1950) Bestimmungstabelle der *Usia*-arten der Welt (Bombyliidae, Diptera). EOS-Revista Española de Entomología 26: 341–378.
- Parent O (1924) Deux Dolichopodides nouveaux capturés au Maroc Espagnol par M. Asenci Codina. Treballs del Museu de Ciències Naturals de Barcelona 4(6): 1–15.
- Parent O (1925) Trois Dolichopodides nouveaux de l'Afrique mineure (diptères). Bulletin de la Société royale entomologique d'Égypte 9: 186–197.
- Parent O (1926) Notes synonymiques sur les espèces de Macquart (Dolichopodidés). Annales de la Société scientifique de Bruxelles (B) 46: 205–229.

- Parent O (1927) Contribution à l'étude de la distribution géographique de quelques espèces de Dolichopodides. Comptes Rendus du congrès des sociétés savantes en 1926. Science, 449–484.
- Parent O (1929a) Études sur les Dolichopodides. 1. Espèces nouvelles de Dolichopodides de la région paléarctique. Encyclopédie entomologique (B II) Diptera 5: 1–16.
- Parent O (1929b) Les Dolichopodidae de la région éthiopienne. Etude systématique. Bulletin de la Société royale entomologique d'Égypte 13: 151–190.
- Parent O (1933) Quelques espèces nouvelles de Diptères Dolichopodides de la région paléarctique. Annales de la Société scientifique de Bruxelles (B) 53: 74–78.
- Parent O (1937a) Diptères Dolichopodidae nouveaux du Congo belge et du Maroc. Bulletin du Musée royal d'histoire naturelle de Belgique 13(18): 2–19.
- Parent O (1937b) Diptères Dolichopodides, espèces et localités nouvelles. Bulletin et annales de la Société royale d'entomologie de Belgique 77: 125–148.
- Parent O (1938) Faune de France 35. Diptères Dolichopodidae. Paris, 723 pp.
- Paricio N, Pascual L, Martinez-Sebastian MJ, de Frutos R (1991) Sequences homologous to P elements of *Drosophila melanogaster* are widely distributed in *Drosophila subobscura*. Drosophila Information Service 70: 171–172.
- Pârvu C (1997) Some species of Dolichopodidae (Diptera) recorded from Serbia (Yugoslavia). Travaux du Muséum National d'Histoire Naturelle «Grigore Antipa» 39: 175–178.
- Pârvu C (2008) Three Mediterranean Dolichopodidae little known. (Results of some Romanian expeditions in Israel, 1995 and Morocco, 2007). Travaux du Muséum d'Histoire Naturelle «Grigore Antipa» 51: 345–352.
- Pârvu C, Mirceni RP, Zaharia R (2006) Faunistic data on some dipteran families (Insecta, Diptera) from Morocco (Results of «Hamada» Expedition 2005). Travaux du Muséum National d'Histoire Naturelle «Grigore Antipa» 49: 271–281.
- Pârvu C, Zaharia R (2007) Faunistic contributions on some Diptera families (Insecta : diptera) from Tunisia. Travaux du Muséum National d'Histoire Naturelle «Grigore Antipa» 50: 447–461.
- Pascual M, Constanti M, Ribo G, Prevosti A (1986) Sexual isolation between populations of *Drosophila subobscura*. II. American and European strains. Genetica Iberica 38: 223–230.
- Pascual M, Constanti M, Ribo G, Prevosti A (1990) Genetic changes in mating activity in laboratory strains of *Drosophila subobscura*. Genetica 80: 39–43. <https://doi.org/10.1007/BF00120118>
- Pasteur N, Verdier JM, Rioux JA, Guilvard H, Perieres J (1978) Le complexe *Aedes detritus* (Haliday, 1833): Existence de deux espèces jumelles en Afrique du Nord. Annales de Parasitologie 53(6): 761–763. <https://doi.org/10.1051/parasite/1978536761>
- Peck LV (1988) Family Syrphidae. In: Soós Á, Papp L (Eds) Catalogue of Palaearctic Diptera. Vol. 8: Syrphidae – Conopidae. Akadémiai Kiadó, 11–230.
- Peris SV (1951) Descripciones preliminares de nuevos Rhiniini (Dip. Calliphoridae). EOS-Revista Española de Entomología 27: 237–247.
- Peris SV (1963) Sobre los Rhinophorinae españoles con descripción de una nueva especie de *Chaetostavenia* de Marruecos (Dipt., Calliphoridae). EOS-Revista Española de Entomología 38: 601–609.

- Peris SV, Llorente V (1963) Notas sobre Muscini paleárticos y revisión de las especies españolas (Diptera, Muscidae). Boletín de la Real Sociedad Española de Historia Natural (Sección Biológica) 61(1–2): 209–269.
- Peris SV, González-Mora D, Mingo E (1998) Los Heteronychiina de la Península Ibérica: Subgénero *Heteronychia* s.str., y descripción de una especie nueva de Tánger. (Diptera, Sarcophagidae). Boletín de la Real Sociedad Española de Historia Natural (Sección Biológica) 94(1–2): 165–178. [In Spanish with Spanish and English abstracts]
- Pernot-Visentin O, Beaucournu-Saguez F (1974) Les Tabanidae (Diptera) de France. Bulletin de la Société Linnéenne de Lyon, 43<sup>e</sup> année 5: 142–155. <https://doi.org/10.3406/linly.1974.10119>
- Pesson B, Ready JS, Benabdennbi I, Martín-Sánchez J, Esseghir S, Cadi-Soussi M, Morillas-Marquez F, Ready PD (2004) Sandflies of the *Phlebotomus perniciosus* complex: mitochondrial introgression and a new sibling species of *P. longicuspis* in the Moroccan Rif. Medical and Veterinary Entomology 18(1): 25–37. <https://doi.org/10.1111/j.0269-283x.2004.0471.x>
- Pierre C (1922a) Nematocera polyneura recueillis au Maroc par M. Charles Alluaud. Tipulidae. Bulletin de la Société des sciences naturelles du Maroc 1: 21–24.
- Pierre C (1922b) Nematocera polyneura recueillis au Maroc par M. Charles Alluaud. Tipulidae. Bulletin de la Société des sciences naturelles du Maroc (2<sup>e</sup> liste, 1920–1921) 1: 148–151.
- Pierre C (1924a) Nematocera Polyneura receuillis au Maroc par M. Charles Alluaud (3C liste, 1922–1923) (Insectes Diptères). Bulletin de la Société des sciences naturelles du Maroc 4: 198–201.
- Pierre C (1924b) Tipulidae nouveaux. Encyclopédie entomologique, Série B, Mémoires et Notes II, Diptera 1(2): 79–93.
- Pinto FM, Brehm A, Hernandez M, Larruga JM, Gonzalez AM, Cabrera VM (1997) Population genetic structure and colonization sequence of *Drosophila subobscura* in the Canaries and Madeira Atlantic islands as inferred by autosomal, sex-linked and mtDNA traits. Journal of Heredity 88: 108–114. <https://doi.org/10.1093/oxfordjournals.jhered.a023067>
- Piqué A (1994) Géologie du Maroc. Editions PUMAG. Marrakech, 284 pp.
- Pitkin B, Ellis W, Plant C, Edmunds R (2011) Leaf and stem mines of British flies and other insects. <http://www.ukflymines.co.uk/resources.php>
- Pleske T (1930) Revue des espèces paléarctiques de la famille des Cyrtidae (Diptera). Konowia 9: 156–173.
- Plus N, Croizier G, Jousset FX, David J (1975) Picornaviruses of laboratory and wild *Drosophila melanogaster*: Geographical distribution and serotypic composition. Annals of Microbiology 126A: 107–117.
- Plus N, Croizier G, Veyrunes JC, David J (1976) A comparison of buoyant density and polypeptides of *Drosophila* P, C and A viruses. Intervirology 7: 346–350. <https://doi.org/10.1159/000149975>
- Plus N, Scotti PF (1984) The biological properties of eight different isolates of cricket paralysis virus. Annales de l'Institut Pasteur Virologie 135E: 257–268. [https://doi.org/10.1016/S0769-2617\(84\)80027-1](https://doi.org/10.1016/S0769-2617(84)80027-1)
- Pollet M, Stark A (2018) The quest for the identity of *Orthoceratium lacustre* (Scopoli, 1763) reveals centuries of misidentifications (Diptera, Dolichopodidae). ZooKeys 782: 49–79. [+ Suppl. 1–15] <https://doi.org/10.3897/zookeys.782.26329>

- Pont AC (1970) *Myospila hennigi* Gregor and Povolný, 1959 (Dipt., Muscidae), new to Britain, and notes on the European species of *Myospila* Rondani, 1856. The Entomologist's Monthly Magazine 106: 111–113.
- Pont AC (1973) *Phaonia mediterranea* Hennig (Dipt., Muscidae), new to Britain. The Entomologist's Monthly Magazine 108: 238–239.
- Pont AC (1983) Notes on two Palaearctic species of *Fannia* Robineau-Desvoidy (Diptera, Fanniidae). The Entomologist's Monthly Magazine 119: 111–115.
- Pont AC (1986a) Family Fanniidae. In: Soós Á, Papp L (Eds) Catalogue of Palaearctic Diptera. Vol. 11: Scathophagidae – Hypodermatidae. Akadémiai Kiadó, Budapest, 41–57. [346 pp]
- Pont AC (1986b) Family Muscidae. In: Soós Á, Papp L (Eds) Catalogue of Palaearctic Diptera. Vol. 11: Scathophagidae – Hypodermatidae. Akadémiai Kiadó, Budapest, 57–215. [346 pp]
- Pont AC (1991a) A Review of the Fanniidae and Muscidae (Diptera) of the Arabian Peninsula. Fauna of Saudi Arabia 12: 312–365.
- Pont AC (1991b) A preliminary list of the Fanniidae and Muscidae (Insecta: Diptera) from Turkey and the Middle East. Zoology in the Middle East 5: 63–112. <https://doi.org/10.1080/09397140.1991.10637603>
- Pont AC (2012a) Muscoidea (Fanniidae, Anthomyiidae, Muscidae) described by P.J.M. Macquart (Insecta, Diptera). Zoosystema 34(1): 39–111. <https://doi.org/10.5252/z2012n1a3>
- Pont AC (2012b) *Helina richardi* (Diptera: Muscidae), a remarkable new species from the Mediterranean subregion. The Canadian Entomologist 144: 348–352. <https://doi.org/10.4039/tce.2012.31>
- Pont AC, Singh B (1965) Oxford University Expedition to the High Atlas, Morocco 1963. Oxford, 14 pp.
- Pont AC, Meier R (2002) The Sepsidae (Diptera) of Europe. Fauna entomologica Scandinavica, 37. Brill, 198 pp. <https://doi.org/10.1163/9789047401391>
- Pont AC, Lole MJ, LeBlanc HN, Cole JH (2007) The American black dump fly *Hydrotaea aeneascens* (Wiedemann, 1830) (Diptera, Muscidae) in Britain and Ireland. Dipterists Digest (2), 14(1): 23–29.
- Pont AC, Harutyunova K, Harutyunova M, Werner D (2012) The hunter-flies of Armenia. III. New records of the genus *Limnophora* Robineau-Desvoidy, 1830, with the description of a new species. Zoology in the Middle East 57: 127–136. <https://doi.org/10.1080/09397140.2012.10648972>
- Popescu-Mirceni RV (2011) Studiul sistematic și zoogeographic asupra unor specii de diptere Brachicere (Diptera–Brachycera) din sectoarele Sudic și estic ale subregiunii mediteraneene. Teză de doctorat, Universitatea din București, Facultatea de Biologia. București, 256 pp. [in Romanian]. [A systematic and zoogeographic study on some Brachycera species (Diptera, Brachycera) from the South and the Eastern part of the submediterranean subregion].
- Popov GV, Prokhorov AV, Kustov SYu (2020) Revision of the *Melanogaster jaroslavensis* group (Diptera: Syrphidae), with description of a new species from Afghanistan. Zootaxa 4743(4): 536–552. <https://doi.org/10.11646/zootaxa.4743.4.4>
- Popović D, Ačanski J, Djan M, Obreht D, Vujić A, Radenković S (2015) Sibling species delimitation and nomenclature of the *Merodon avidus* complex (Diptera: Syrphidae). European Journal of Entomology 112(4): 790–809. <https://doi.org/10.14411/eje.2015.100>

- Portillo M (1989) Tabanidae (Díptera) de España: VI. *Tabanus* Linnaeus, 1758. Boletín de la Asociación española de Entomología 13: 407–430.
- Preradović J, Andrić A, Radenković S, Šašić Zorić L, Pérez-Bañón C, Campoy A, Vujić A (2018) Pupal stages of three species of the phytophagous genus *Merodon* Meigen (Diptera: Syrphidae). Zootaxa 4420(2): 229–242. <https://doi.org/10.11646/zootaxa.4420.2.5>
- Prevosti A (1971a) Chromosomal polymorphism in *Drosophila subobscura* Coll. populations from the Canary Islands. Genetica Iberica 23: 69–84.
- Prevosti A (1971b) Ordenaciones cromosómicas en poblaciones de *Drosophila subobscura* del sur de Marruecos. Book: Resum. Comun. VIII. Journal of Genetics, Luso-Española, 63 pp.
- Prevosti A (1971c) Polimorfisme cromosomático en poblacions de *Drosophila subobscura* Coll. de Madeira. Treballs de la Societat Catalana de Biologia 30: 61–69.
- Prevosti A (1974) Chromosomal inversion polymorphism in the southwestern range of *Drosophila subobscura* distribution area. Genetica 45: 111–124. <https://doi.org/10.1007/BF01508935>
- Prevosti A (1978) Polimorfismo cromosómico y evolución. Investigación y Ciencia, Barcelona 26: 90–103.
- Prevosti A, Ocaña J, Alonso G (1975) Distances between populations of *Drosophila subobscura*, based on chromosome arrangement frequencies. Theoretical and Applied Genetics 45: 231–241. <https://doi.org/10.1007/BF00831894>
- Prevosti A, Serra L, Ribo G, Aguade M, Sagarra E, Monclus M, Pilar Garcia M (1985) The colonization of *Drosophila subobscura* in Chile. II. Clines in the chromosomal arrangements. Evolution 39(4): 838–844. <https://doi.org/10.1111/j.1558-5646.1985.tb00425.x>
- Prudhomme J, Gunay F, Rahola N, Ouanaimi F, Guernaoui S, Boumezzough A, Banuls AL, Sereno D, Alten B (2012) Wing size and shape variation of *Phlebotomus papatasi* (Diptera: Psychodidae) populations from the south and north slopes of the Atlas Mountains in Morocco. Journal of Vector Ecology 37: 137–147. <https://doi.org/10.1111/j.1948-7134.2012.00210.x>
- Raclin J (1957) Une famille de Diptères nouvelle pour le Maroc (Phoridae: *Diploneura crassicornis*). Société des sciences naturelles et physiques du Maroc 23(4): 59–60.
- Ramdani M (1997) Hydrogéologie de quelques écosystèmes côtiers et action des produits chimiques et bactériologiques sur les larves de Moustiques de la meseta côtière (Témara – Casablanca). Thèse de doctorat de 3<sup>ème</sup> cycle, Faculté des Sciences, Rabat, 115 pp.
- Ramdani M (1981) Recherches hydrobiologiques sur la Merja Sidi Boughaba. Bulletin de l'Institut scientifique, Rabat 5: 73–133.
- Ramdani M, Tourenq JN (1982) Contribution à l'étude faunistique de la Merja de Sidi Bou Ghaba. Bulletin de l'Institut scientifique, Rabat 6: 179–223.
- Raspi A, Pisciotto S, Sajevo M (2009) *Milichiella lacteipennis*: new record for Lampedusa Island (Italy). Bulletin of Insectology 62(2): 133–135.
- Reemer M, Hauser M, Speight M (2004) The genus *Myolepta* Newman in the West-Palaeartic region (Diptera, Syrphidae). Studia dipterologica 11(2): 553–580.
- Reiss F (1977) Verbreitungsmuster bei paläarktischen Chironomidenarten (Diptera, Chironomidae). Spixiana 1: 85–97.



- Reiss F (1985) Contribution to the zoogeography of the turkish Chironomidae (Diptera). Israel Journal of Entomology 19: 161–170.
- Reiss F (1986) Ein Beitrag zur chironomidenfauna Syriens (Diptera, Chironomidae). Entomofauna Zeitschrift für Entomology 7(11): 153–168.
- Reiss F (1987) *Tanytarsus cretensis* sp. n. eine neue westpalaeaktische Chironomidenart aus Fliessgewässern (Diptera, Chironomidae). Nachrichtenblatt der Bayerischen Entomologen 36: 26–30.
- Reiss F (1991) Drei neue Tanytarsini-Arten aus Marokko (Diptera, Chironomidae). Nachrichtenblatt der Bayerischen Entomologen 40(2): 45–52.
- Reiss F, Fittkau EJ (1971) Taxonomie und Ökologie europäisch verbreiteter *Tanytarsus*-Arten (Chironomidae, Diptera). Archiv fuer Hydrobiologie 40: 75–200.
- Reiss F, Säwedel L (1981) Keys to males and pupae of the Palaearctic (excl. Japan) *Paratanytarsus* Thienemann & Bause, 1913, n. comb., with description of three new species (Diptera: Chironomidae). Entomologica scandinavica Supplement 15: 73–104.
- Reiss F, Schurch M (1984) *Virgatanytarsus ansatus* n. sp. aus Mitteleuropa und Nordafrika. Spixiana 7(3): 319–322.
- Remm H (1988a) Family Ceratopogonidae. In: Soós Á, Papp L (Eds) Catalogue of Palaearctic Diptera. Vol. 3: Ceratopogonidae – Mycetophilidae. Akadémiai Kiadó, Budapest, 11–110. [448 pp]
- Remm H (1988b) Family Leptoconopidae. In: Soós Á, Papp L (Eds) Catalogue of Palaearctic Diptera. Vol. 3: Ceratopogonidae – Mycetophilidae. Akadémiai Kiadó, Budapest, 110–114. [448 pp]
- Ricarte A, Marcos-García MÁ, Rotheray GE (2008) The early stages and life histories of three *Eumerus* and two *Merodon* species (Diptera: Syrphidae) from the Mediterranean region. Entomologica Fennica 19(3): 129–141. <https://doi.org/10.33338/ef.84424>
- Rioux JA (1958) Les Culicides du Midi méditerranéen. P. Lechevalier, Paris, 303 pp.
- Rioux JA, Croset H, Léger N, Bailly-Choumara H (1974) *Phlebotomus (Larroussius) mariae* n. sp. (Diptera: Psychodidae). Annales de Parasitologie (Paris) 49: 91–101. <https://doi.org/10.1051/parasite/1974491091>
- Rioux JA, Croset H, Léger N, Benmansour N, Cadi Soussi M (1975) Présence au Maroc de *Phlebotomus bergeroti*, *Phlebotomus chabaudi*, *Phlebotomus chadlii* et *Sergentomyia christophersi*. Annales de Parasitologie Humaine et Comparée (Paris) 50: 493–506. <https://doi.org/10.1051/parasite/1975504493>
- Rioux JA, Cousserans J, Croset H, Ben Osman F, Gabinaud A, Sinègre G, Belmonte A (1975) Présence du caractère autogène chez *Aedes pullatus* (Coquillett, 1904) et nouvelles localisations géographiques pour *Aedes caspius* (Pallas, 1771), *Aedes mariae* (Sergent, 1903), *Aedes detritus* (Haliday, 1833) et *Culiseta subochrea* (Edwards, 1921). Annales de Parasitologie Humaine et Comparée 50: 131–142. <https://doi.org/10.1051/parasite/1975501131>
- Rioux JA, Croset H, Léger N, Rosin G (1977) Presence of *Phlebotomus perfiliewi* Parrot, 1930 in Morocco. Annales de Parasitologie Humaine et Comparée (Paris) 52(3): 377–380. <https://doi.org/10.1051/parasite/1977523377>
- Ristorcelli A (1941) Sur les Phlébotomes du Maroc – Deuxième note. Archives de l'Institut Pasteur du Maroc 21: 521–533.



- Ristorcelli A (1946a) Sur la présence à Marrakech d'*Anopheles hispaniola*. Annales de Parasitologie 21: 1–4.
- Ristorcelli A (1946b) Sur la zoophilie d'*Anopheles hispaniola*. Annales de Parasitologie 21: 93–96. <https://doi.org/10.1051/parasite/1946211093>
- Ristorcelli A (1947) Sur les Phlébotomes du Maroc – Troisième note. Archives de l'Institut Pasteur du Maroc 23: 105–109.
- Ritchie MG, Yate VH, Kyriacou CP (1994) Genetic variability of the interpulse interval of courtship song among some European populations of *Drosophila melanogaster*. Heredity 72: 459–464. <https://doi.org/10.1038/hdy.1994.64>
- Robineau-Desvoidy AJB (1830) Essai sur les Myodaires. Mémoires présentés par divers Savants à l'Académie Royale des Sciences de l'Institut de France 2: 813 pp. [+31.xii.1830]
- Rognes K (1987) The taxonomy of the *Pollenia rudis* species-group in the Holarctic Region (Diptera: Calliphoridae). Systematic Entomology 12: 475–502. <https://doi.org/10.1111/j.1365-3113.1987.tb00219.x>
- Rognes K (1991a) Blowflies (Diptera, Calliphoridae) of Fennoscandia and Denmark. Fauna entomologica Scandinavica 24: 1–272.
- Rognes K (1991b) Revision of the cluster-flies of the *Pollenia viatica* species-group (Diptera: Calliphoridae). Systematic Entomology 16: 439–498. <https://doi.org/10.1111/j.1365-3113.1991.tb00678.x>
- Rognes K (1992) Revision of the cluster-flies of the *Pollenia vagabunda* species-group (Diptera: Calliphoridae). Entomologica scandinavica 23(1): 95–114. <https://doi.org/10.1163/187631292X00056>
- Rognes K (2002) Blowflies (Diptera, Calliphoridae) of Israel and adjacent areas with a new species from Tunisia. Entomologica scandinavica Supplements 59, 148 pp. [+ 81pls + 302 figs]
- Rognes K (2010) Revision of the cluster flies of the *Pollenia haeretica* species-group (Diptera, Calliphoridae). Zootaxa 2499: 39–56. <https://doi.org/10.11646/zootaxa.2499.1.3>
- Rognes K (2011) Short notes. 12. Diptera, Calliphoridae. In: Nardi G, Whitmore D, Bardiani M, Birtele D, Mason F, Spada L, Cerretti P (Eds) Biodiversity of Marganai and Montimannu (Sardinia). Research in the framework of the ICP Forests network. – Conservazione Habitat Invertebrati 5. Cierre Edizioni, Sommacampagna, Verona, 852–857.
- Roháček J (1991) A monograph of *Leptocera* (*Rachispoda* Lioy) of the West Palaearctic area (Diptera, Sphaeroceridae). Časopis Slezského zemského muzea, Opava (A), 40: 97–288.
- Roháček J (2006) A monograph of Palaearctic Anthomyzidae (Diptera) Part 1. Opava, Czech Republic. Časopis Slezského zemského muzea, Opava (A) 55 supplement 1, 330 pp.
- Roháček J (2007) The Sphaeroceridae (Diptera) of Madeira, with notes on their biogeography. Časopis Slezského zemského muzea, Opava (A) 56: 97–122.
- Roháček J, Marshall SA, Norrbom AL, Buck M, Quiros DI, Smith I (2001) World catalog of Sphaeroceridae (Diptera). Časopis Slezského zemského muzea, Opava, 395 pp.
- Rohdendorf BB (1937) Fam. Sarcophagidae. (P. 1). Fauna USSR 19: [xv +] 501 pp. [+ [1]] [In Russian with German summary]
- Rohmer C, David JR, Moreteau B, Joly D (2004) Heat induced male sterility in *Drosophila melanogaster*: adaptive genetic variations among geographic populations and role of the Y chromosome. Journal of Experimental Biology 207: 2735–2743. <https://doi.org/10.1242/jeb.01087>

- Romeo Viamonte JM (1950) Los anofelinos de España y de la zona española del Protectorado de Marruecos. Su relación con la difusión del paludismo. (Tesis Doctoral). Revista de Sanidad e Higiene Pública 24: 213–295.
- Röschmann F, Mohrig W (1993) *Corynoptera jeskei* Moh. & Rösch., eine neue Species der *C. fulvicollis*-Gruppe aus Marokko. (Insecta: Diptera: Sciaridae). Reichenbachia 30: 109–111.
- Rossi W, Santamaría S, Andrade R (2013) Notes on the Laboulbeniales (Ascomycota) parasitic on Diptera from Portugal and other countries, Plant Biosystems – An International Journal Dealing with all Aspects of Plant Biology: Official Journal of the Societa Botanica Italiana 147(3): 730–742. <https://doi.org/10.1080/11263504.2012.753132>
- Rozkošný R (1977) The West Palaearctic species of *Nemotelus* Geoffroy (Diptera, Stratiomyidae). Folia facultatis scientiarum naturalium Universitatis Purkynianae Brunensis 17, Biology 51(3): 1–105.
- Rozkošný R (1982) Three new species of *Pherbellia* and new synonyms of Holarctic and Palaearctic Sciomyzidae (Diptera). Annales entomologici Fennici 48(2): 51–56.
- Rozkošný R (1982–1983) A Biosystematic Study of the European Stratiomyidae (Diptera). Vols 1–2. W. Junk, The Hague–Boston–London, 401 + 431 pp.
- Rozkošný R (1987) A review of the Palaearctic Sciomyzidae (Diptera). Folia Facultatis Scientiarum Naturalium. Universitatis Masarykianae Brunensis, Biologia 86: 100 pp. [+ 56 pls]
- Rübsaamen EH (1899) Mittheilungen über neue und bekannte Gallen aus Europa, Asie, Africa und America. Entomologische Nachrichten 25: 225–282.
- Rungs CEE (1952) Contribution à la connaissance de l'ennemie de l'Arganier, *Argania spinosa* (L.). Bulletin de la Société scientifique naturelle du Maroc 32: 61–76.
- Rungs CEE (1962) La faune nuisible à la betterave. Al Awatania 3: 161–174.
- Rungs Ch (1940) Les ennemis du Cèdre au Maroc. Comptes-Rendus des séances de la Société des sciences naturelles du Maroc Tome V, 14–16.
- Rungs Ch (1954) La chenille arpenreuse de l'Acacia à Tanin. Service de la Défense des Végétaux, Travaux originaux 5: 57 pp. [Rabat]
- Sabrosky CW (1965) Diptera Chloropidae – Mission zoologique de l'I.R.S.A.C. en Afrique orientale. (P. Basilewsky et N. Leleup 1957). Annales du Musée Royal de l'Afrique centrale (Série in-8° – Sciences zoologiques) 138: 401–412. [Tervuren]
- Sabrosky CW (1980) 80. Family Chloropidae. In: Crosskey RW, Cogan BH, Freeman P, Pont AC, Smith KGV, Oldroyd H (Eds) Catalogue of the Diptera of the Afrotropical Region. British Museum (Natural History), London, 695–712 and 1219. [1437 pp]
- Saccà G (1952) Due mosche nuove per la fauna d'Europa: *Musca sorbens* Wied. e *Limnophora tonitruui* Wied., in Sicilia (Diptera, Muscidae). Rivista di Parassitologia 13(2): 177–180.
- Saccà G (1960) Contributo alla conoscenza delle *Myzomyia* del Sud Marocchino. Rendiconti dell'Istituto superiore di Sanità 23: 275–580.
- Saccà G, Guy Y (1960) Résistance de comportement au DDT chez *A. labranchiae* au Maroc. Bulletin de l'Organisation Mondiale de la Santé 22(6): 735–741.
- Saether OA (1968) Chironomids of the finse Area Norway with special reference to their distribution in a glacier brook. Archiv fuer Hydrobiologie 64: 426–483.
- Sahebaria FS, Khaghaninia S, Zieglerb J, Gilasianc E, Talebid AA (2016) On the fauna of the subfamily Phasiinae (Diptera: Tachinidae) in northwestern Iran. Zoology and Ecology 26(3): 181–190. <https://doi.org/10.1080/21658005.2016.1174504>

- Sahib S, Driauach O, Belqat B (2020) New data on the Hoverflies of Morocco (Diptera: Syrphidae) with Faunistic and Bibliographical inventory. *ZooKeys* 971: 59–103. <https://doi.org/10.3897/zookeys.971.49416>
- Samin N, Sakenin H, Imani S (2011) A contribution to the knowledge of robber flies (Diptera: Asilidae) from some regions of Iran. *Calodema* 159: 1–5.
- Sánchez Terrón A, Roldan Bravo AV (2000) El género *Thyridanthrax* Osten-Sacken, 1886 en el área ibero-balear, con la descripción de una nueva especie (Diptera, Bombyliidae). *Boletín de la Asociación española de Entomología* 24(1–2): 65–84.
- Sarvašová A, Kočišová A, Halán M, Delécolle JC, Mathieu B (2014) Morphological and molecular analysis of the genus *Culicoides* (Diptera: Ceratopogonidae) in Slovakia with five new records. *Zootaxa* 3872(5): 541–560. <https://doi.org/10.11646/zootaxa.3872.5.6>
- Savchenko EN, Oosterbroek P, Starý J (1992) Family Limoniidae. In: Soós Á, Papp L (Eds) *Catalogue of Palaearctic Diptera. Vol. 1: Trichoceridae – Nymphomyiidae*. Akadémiai Kiadó, Budapest, 183–369. [520 pp]
- Savini G, Goffredo M, Monaco F, Di Gennaro A, Cafiero MA, Baldi L, de Santis P, Meiswinkel R, Caporale V (2005) Bluetongue virus isolations from midges belonging to the *Obsoletus* complex (*Culicoides*, Diptera: Ceratopogonidae) in Italy. *Veterinary Record* 157: 133–139. <https://doi.org/10.1136/vr.157.5.133>
- Savio C (2011) Symbiotic and associated bacteria in Tephritid flies. *Scuola Di Dottorato Di Ricerca in Scienze delle Produzioni Vegetali. Università Degli Studi di Padova*, 159 pp.
- Schacht W, Kurina O, Merz B, Gaimari S (2004) Zweiflügler aus Bayern XXIII (Diptera: Lauxaniidae, Chamaemyiidae). *Entomofauna* 25(3): 41–80.
- Schlinger EI (1972) New East Asian and American genera of the “*Cyrtus–Opsebius*” Branch of the Acroceridae (Diptera). *Pacific Insects* 14(2): 409–428.
- Schmid U (1995) Neu beschriebene paläarktische Schwebfliegenarten (Diptera, Syrphidae) und neue Synonyme: eine Übersicht. *Volucella* 1: 29–44.
- Schmitz H (1920) Die Phoriden von Holländisch Limburg mit Bestimmungstabellen aller bisher kenntlich beschriebenen europäischen Phoriden. IV. Teil. *Jaarboek natuurhistorisch Genootschap in Limburg* 1919, 91–153.
- Schmitz H (1949) 33. Phoridae. In: Lindner E (Ed.) *Die Fliegen der palaearktischen Region* 4(160): 193–240.
- Schumann H (1974) Revision der palaearktischen *Bellardia*-Arten (Diptera, Calliphoridae). *Deutsche entomologische Zeitschrift (N.F.)* 21: 231–299. <https://doi.org/10.1002/mmnd.4810210402>
- Schumann H (1986) Family Calliphoridae. In: Soós Á, Papp L (Eds) *Catalogue of Palaearctic Diptera. Vol. 12: Calliphoridae – Sarcophagidae*. Akadémiai Kiadó, Budapest, 11–58. [265 pp]
- Séguy E (1924) *Les insectes parasites de l’homme et des animaux domestiques*. Paris (P. Lechevalier), 422 pp.
- Séguy E (1925) Description d’un nouveau *Simulium* et synopsis des espèces méditerranéennes (Dipt., Simuliidae). *EOS – Revista Española de Entomología* 1: 231–238.
- Séguy E (1926) 13. Diptères (Brachycères) (Stratiomyidae, Erinnidae, Coenomyiidae, Rhagionidae, Tabanidae, Codidae, Nemestrinidae, Mydidae, Bombyliidae, Therevidae, Omphralidae). *Faune de France* 13: 1–308. [Paris]

- Séguy E (1928a) Diptères nouveaux d'Afrique mineure. Bulletin de la Société entomologique de France 1: 45–46. <https://doi.org/10.3406/bsef.1928.27937>
- Séguy E (1928b) Description d'un nouveau calliphorine (Dipt.). Bulletin de la Société entomologique de France 97: 152–154. <https://doi.org/10.3406/bsef.1928.27992>
- Séguy E (1928c) Etude sur quelques Mydidae nouveaux ou peu connus. Encyclopédie entomologique, Série B II, Diptera 4(3): 129–156.
- Séguy E (1928d) Etudes sur les Mouches parasites. I. Conopides, Oestrides et Calliphorines de l'Europe occidentale. Encyclopédie entomologique, Paris 9: 101–116.
- Séguy E (1928e) Etude sur le *Pollenia Hasei*. Zeitschrift für angewandte Entomologie 28: 369–375. <https://doi.org/10.1111/j.1439-0418.1929.tb00082.x>
- Séguy E (1929a) Une Pangonie nouvelle du Maroc (Tabanidae). Encyclopédie entomologique, Diptères 5: 100.
- Séguy E (1929b) Etude sur les Diptères à larves commensales ou parasites des oiseaux de l'Europe occidentale. Encyclopédie entomologique, Diptera 5: 63–82.
- Séguy E (1930a) Contribution à l'étude des Diptères du Maroc. Mémoires de la Société des sciences naturelles du Maroc 24, 207 pp.
- Séguy E (1930b) Notes sur les moustiques III (1): l'*Anopheles costalis* en Europe méridionale. Encyclopédie entomologique, Diptera 5: 177–178.
- Séguy E (1932a) Étude sur les diptères parasites ou prédateurs des sauterelles. Encyclopédie entomologique, B II, Diptera 6: 11–40.
- Séguy E (1932b) Trois nouveaux *Stenopogon* marocains (Diptera : Asilidae). Bulletin de la Société entomologique de France 37(18): 259–259. <https://doi.org/10.3406/bsef.1932.14482>
- Séguy E (1932c) Spedizione scientifica all' oasi di Cufra (Marzo-Luglio, 1931). Insetti diptères. Annali del Museo civico di storia naturale di Genova 55(1930–1931): 490–511.
- Séguy E (1934a) Diptères (Brachycères) (Muscidae acalypterae et Scatophagidae). Faune de France 28: III + 832 pp. [Pl. I–XXVII. Paris]
- Séguy E (1934b) Contribution à la connaissance des insectes diptères du Maroc. Terre et Vie 4(3): 162–163.
- Séguy E (1934c) Contribution à l'étude des mouches phytophages de l'Europe occidentale. II. Encyclopédie entomologique, B II, Diptera 7: 167–264.
- Séguy E (1934d) Diptères d'Afrique. Encyclopédie entomologique, Paris, Série B II, Diptera 7: 63–80.
- Séguy E (1934e) Diptères d'Espagne. Étude systématique basée principalement sur les collections formées par le R.P. Longain Nava, S.J. Memorias de la Academia de Ciencias Exactas, Fisico-Quimicas y Naturales de Zaragoza 3: 1–54.
- Séguy E (1935a) Diptères du Maroc. Encyclopédie entomologique, Paris, Série B II, Diptera 8: 119–120.
- Séguy E (1935b) Une nouvelle espèce de Thérévide du Maroc. Encyclopédie entomologique Paris, Série B II, Diptera 8: 153–154.
- Séguy E (1936a) Un nouveau Conopidae Marocain et synopsis générique des Conopides de la région Holartique. In: Neuville H (Ed.) Livre jubilaire de M. Eugène-Louis Bouvier, membre de l'Institut, professeur honoraire au Muséum, 299–302. [379 pp]

- Séguy E (1936b) Un nouveau Muscide nuisible à l'orge au Maroc. Liste des Diptères vivant sur les *Hordeum*. Bulletin de la Société des sciences naturelles du Maroc 16: 3–5.
- Séguy E (1938) Étude sur les diptères recueillis par M.H. Lhote dans le Tassili des Ajjer (Sahara Touareg). Encyclopédie entomologique, Paris, Série B II, Diptera 9: 37–45.
- Séguy E (1940) Récoltes entomologiques de M.L. Berland à Villa Cisneros (Rio de Oro). Insectes Diptères. Bulletin du Muséum national d'Histoire naturelle, Paris (2), 12(5–7): 340–343. [31.xii.1940]
- Séguy E (1941a) Récoltes de R. Paulian et A. Villiers dans le Haut Atlas marocain, 1938 (xvii<sup>e</sup> note). Diptères. Revue Française d'Entomologie, Paris 8: 25–33.
- Séguy E (1941b) Un *Syllegomydas* nouveau du nord de l'Afrique (Dipt., Mydidae). Bulletin de la Société entomologique de France 46: 111–112. <https://doi.org/10.3406/bsef.1941.15519>
- Séguy E (1941c) Études sur les mouches parasites. 2. Calliphorides, calliphorines (suite), sarcophagines et rhinophorides de l'Europe occidentale et méridionale. Encyclopédie entomologique (Ser. A) 21: 1–436.
- Séguy E (1941d) Diptères recueillis par M.L. Berland dans le sud marocain. Annales de la Société entomologique de France 110(1–2): 1–23.
- Séguy E (1949a) Diptères de Sud-Marocain (Vallée du Draa) recueillis par M.L. Berland en 1947. Revue Française d'Entomologie, Paris 16: 152–161.
- Séguy E (1949b) Un *Pycnopogon* aberrant du Maroc (Dipt., Asilidae). Revue Française d'Entomologie, Paris 16(3): 36–87.
- Séguy E (1949c) Un *Cyrtosia* nouveau et synopsis des espèces méditerranéennes (Dipt., Bombyliidae). Revue Française d'Entomologie, Paris 16: 83–85.
- Séguy E (1952) Un nouveau *Stratiolentis* de Mandchourie. Revue Française d'Entomologie, 4<sup>e</sup> trimestre 19: 243–244.
- Séguy E (1953a) Diptères du Maroc. Encyclopédie entomologique. Série B II. Memoires et notes. (1947–1953) 11: 77–92.
- Séguy E (1953b) Un nouveau Phytomyzidae marocain. Encyclopédie entomologique. Série B II. Memoires et notes 11: 72.
- Séguy E (1953c) Description d'un *Cryptochaetum* marocain. Encyclopédie entomologique. Série B II. Memoires et notes 11: 46.
- Séguy E (1957) Chloropides africains du muséum [Dipt.]. Revue Française d'Entomologie, Paris 24(3): 264–277.
- Séguy E (1961) Dipteres Syrphides de l'Europe occidentale. Mémoires du Muséum d'histoire naturelle. Nouvelle série, série A. Zoologie 23, 248 pp.
- Senevet G (1935) Les Anophèles de la France et de ses colonies. Encyclopédie entomologique, P. Lechevalier Editions, 361 pp.
- Senevet G, Gaud J, Millet A (1949) Validité de l'espèce *Culex mauritanicus* Callot, 1940. Archives de l'Institut Pasteur d'Algérie 27: 42–47.
- Senevet G, Andarelli L (1954) Le genre *Aedes* en Afrique du Nord, I: Les larves. Archives d'Institut Pasteur d'Algérie 32: 310–351.
- Senevet G, Andarelli L (1956) Les Anophèles de l'Afrique du Nord et du bassin méditerranéen. Encyclopédie entomologique 33. Lechevalier, Paris, 280 pp.

- Senevet G, Adarelli L (1959a) I. Les Moustiques de l'Afrique du Nord et du bassin méditerranéen: les genres *Culex*, *Uranotaenia*, *Theobaldia*, *Orthopodomyia* et *Mansonia*. Encyclopédie entomologique 37. Lechevalier, Paris, 384 pp.
- Senevet G, Andarelli L (1959b) Un nouveau caractère pour la diagnose des larves de *Culex*. Archives de l'Institut Pasteur d'Algérie 37: 447–461.
- Serra-Tosio B (1967) Taxonomie et Ecologie et biogéographie des *Diamesa* du groupe *latitarsis* (Diptera, Chironomidae). Travaux du Laboratoire d'Hydrobiologie et de Pisciculture, Université Grenoble 57–58: 65–91.
- Serra-Tosio B (1973) Ecologie et biogéographie des Diamesinae d'Europe (Diptera, Chironomidae). Travaux du Laboratoire d'Hydrobiologie, Grenoble 63: 5–175.
- Serra-Tosio B (1983) Données biogéographiques nouvelles sur les Diamesinae des montagnes d'Asie et d'Afrique. 10<sup>e</sup> Congrès national des Sociétés savantes, Grenoble, Sciences, fascicule II: 257–258.
- Setyaningrum H, Al Dhafer HM (2014) The Calliphoridae the blow flies (Diptera: Oestroidea) of Kingdom of Saudi Arabia. Egyptian Academic Journal of Biological Sciences 7(1): 49–139. <https://doi.org/10.21608/eajbsa.2014.13203>
- Shamshev IV (2018) A new species of *Empis* Linnaeus, 1758 (Diptera: Empididae) from Morocco, with a key to *Coptophlebia*-like species of the Mediterranean basin. Caucasian Entomological Bulletin 14 (Supplement): 35–39. <https://doi.org/10.23885/18143326201814S35>
- Shamshev IV, Grootaert P, Stark A (2005) Notes on a remarkable abdominal structure in some *Crossopalpus* Bigot species (Diptera Hybotidae), with new records from Southeast Asia. Studia dipterologica 12(2): 331–336.
- Shoeibi B, Karimpour Y (2010) Contributions to the knowledge of Asilidae (Diptera: Brachycera) from Azarbaijan provinces (Iran). Munis Entomology & Zoology 5: 957–963.
- Sicault G, Messerlin A, Lumeau J, Fritz J (1935) Le Paludisme dans le Gharb. Bulletin de l'Institut d'Hygiène du Maroc 5: 5–91.
- Sidney C (2001) Additional information on Afrotropical Conopidae. Entomologist's Monthly Magazine 137: 179–210.
- Singh S, Baba ZA, Abas Shah M, Kumar R (2014) First record on incidence of Bean Seed Fly, *Delia platura* Meigen (Anthomyiidae: Diptera) in Autumn Sown Beans in Kashmir valley (India). Munis Entomology & Zoology 9(1): 586–587.
- Skuhravá M (1986) Family Cecidomyiidae. In: Soós A, Papp L (Eds) Catalogue of Palaearctic Diptera. Vol. 4: Sciaridae – Anisopodidae. Akadémiai Kiadó, Budapest, 72–297. [441 pp]
- Skuhravá M (1995) A new gall midge species, *Etsuhoa thuriferae* sp. n. (Diptera, Cecidomyiidae), from galls on *Juniperus thurifera* L. (Cupressaceae) in Spain. Zapateri, Revista aragonesa de Entomología 5: 135–146.
- Skuhravá M, Skuhrový V, Brewer JW (1984) Biology of gall midges. In: Ananthakrishnan TN (Ed.) Biology of Gall Insects. Oxford + IBH Publishing Company, New Delhi, Bombay, Calcutta, 169–222. [362 pp]
- Skuhravá M, Blasco-Zumeta J, Skuhrový V (1993) Gall midges (Diptera, Cecidomyiidae) of Aragon. A review of species found in the period 1890–1990 with new records for the Montegros region. Zapateri, Revista aragonesa de Entomología 3: 27–36.

- Skuhrová M, Bayram S, Çam H, Tezcan S, Can P (2005) Gall midges (Diptera: Cecidomyiidae) of Turkey. *Türkiye Entomoloji Derneği* 29(1): 17–34.
- Skuhrová M, Skuhrový V, Elsayed AK (2014a) Gall midges (Diptera: Cecidomyiidae) of Egypt: annotated list and zoogeographical analysis. *Acta Societatis Zoologicae Bohemicae* 78: 241–268.
- Skuhrová M, Karimpour Y, Hussein Sadeghi H, Ali Gol A, Joghataie M (2014b) Gall midges (Diptera: Cecidomyiidae) of Iran: annotated list and zoogeographical analysis. *Acta Societatis Zoologicae Bohemicae* 78: 269–301.
- Skuhrová M, Skuhrový V, Kettani K (2017) Gall midges (Diptera: Cecidomyiidae) of Morocco. *Acta Societatis Zoologicae Bohemicae* 81: 61–87.
- Smit T, Vujić A (2007) The Palaearctic species of the genus *Psilota* Meigen (Diptera, Syrphidae) with the description of two new species. *Studia dipterologica* 14(2): 345–364.
- Soós Á (1984a) Family Platystomatidae. In: Soós Á, Papp L (Eds) *Catalogue of Palaearctic Diptera*. Vol. 9: Micropezidae – Agromyzidae. Akadémiai Kiadó, Budapest, 460 pp.
- Soós Á (1984b) Family Otitidae, pp. 45–59. In: Soós Á, Papp L (Eds) *Catalogue of Palaearctic Diptera*. Vol. 9: Micropezidae – Agromyzidae. Akadémiai Kiadó, Budapest, 38–45. [460 pp]
- Speight MCD (2013) Species accounts of European Syrphidae (Diptera). *Syrph the Net: the database of European Syrphidae* Vol. 72, 316 pp. [Dublin]
- Speight MCD (2018) Species accounts of European Syrphidae. *Syrph the Net, the database of European Syrphidae (Diptera)* 103, 302 pp. [Syrph the Net publications, Dublin]
- Spencer KA (1967) Some Agromyzidae (Diptera) from Morocco. *Entomologist's Monthly Magazine* 103: 126–130.
- Spencer KA (1973) Agromyzidae (Diptera) of economic importance. *Series entomologica*, Volume 9. W. Junk B.V., The Hague, xi + 418 pp. <https://doi.org/10.1007/978-94-017-0683-4>
- Staiger H, Gloor H (1952) Mitosehemmung und Polyploidie durch einen Letalfaktor (lpl = letal-polyploid) bei *Drosophila hydei*. *Chromosoma* 5: 221–245. <https://doi.org/10.1007/BF01271488>
- Starý J (1971) A new palaearctic representative of the subgenus *Protogonomyia* Alexander (Diptera, Tipulidae). *Acta Entomologica Bohemoslovaca* 68: 319–321.
- Starý J (2006) *Hoplolabis* (*Parilisia*) species related to *H. (P.) punctigera* (Lackschewitz, 1940) and *H. (P.) spinosa* (Nielsen, 1953) with the description of a new species (Diptera, Limoniidae) [Übersicht der mit *Hoplolabis (P.) punctigera* (Lackschewitz, 1940) und *H. (P.) spinosa* (Nielsen, 1953) verwandten Arten der Untergattung *Parilisia* nebst der Beschreibung einer neuen Spezies (Diptera, Limoniidae)]. *Studia dipterologica* 13: 115–125.
- Starý J (2009a) New records of Limoniidae, Pediciidae and Tipulidae (Diptera) from the Czech Republic and Slovakia. *Folia faunistica Slovaca* 14(13): 95–97.
- Starý J (2009b) West Palaearctic species of the genus *Eloeophila* (Diptera: Limoniidae). *European Journal of Entomology* 106: 425–440. <https://doi.org/10.14411/eje.2009.054>
- Starý J (2011) Descriptions and records of the Palaearctic *Molophilus* Curtis (Diptera, Limoniidae). *Zootaxa* 2999: 45–62. <https://doi.org/10.11646/zootaxa.2999.1.5>
- Starý J, Freidberg A (2007) The Limoniidae of Israel (Diptera). *Israel Journal of Entomology* 37: 301–357.
- Starý J, Oosterbroek P (2008) New records of West Palaearctic Limoniidae, Pediciidae and Cylindrotomidae (Diptera) from the collections of the Zoological Museum, Amsterdam. *Zootaxa* 1922: 1–20. <https://doi.org/10.11646/zootaxa.1922.1.1>



- Steenis van J (2000) The West-Palaeartic species of *Spilomyia* Meigen (Diptera, Syrphidae). Mitteilungen der schweizerischen entomologischen Gesellschaft 73: 143–168.
- Steenis van J, Hauser M, van Zuijlen MP (2017) Review of the *Eumerus barbarus* species group (Diptera: Syrphidae) from the western Mediterranean Basin. Bonn zoological Bulletin 66 (2): 145–165.
- Steenis van J, Ricarte A, Vujić A, Birtele D, Speight MCD (2016) Revision of the West-Palaeartic species of the tribe Cerioidini (Diptera, Syrphidae). Zootaxa 4196(2): 151–209. <https://doi.org/10.11646/zootaxa.4196.2.1>
- Stefanescu C, Askew RR, Corbera J, Shaw MR (2012) Parasitism and migration in southern Palaeartic populations of the painted lady butterfly, *Vanessa cardui* (Lepidoptera: Nymphalidae). European Journal of Entomology 109: 85–94. <https://doi.org/10.14411/eje.2012.011>
- Stubbs A (2008) Some notes on the Biogeography of British Craneflies. In: Cranefly Recording Scheme Newsletter №16.
- Stuckenberg BR (1998) A revision of the Palaeartic species of *Lampromyia* Macquart (Diptera, Vermileonidae), with the description of a new Iberian species and a cladogram for the genus. Bonner zoologische Beiträge 48(1): 67–96.
- Stuke JH (2016) Taxonomic notes on Western Palaeartic Conopidae (Diptera). Zootaxa 4178(4): 521–534. <https://doi.org/10.11646/zootaxa.4178.4.4>
- Stuke JH, Clements DK (2008) Revision of the *Myopa testacea* Species-Group in the Palaeartic Region (Diptera: Conopidae). Zootaxa 1713: 1–26.
- Stuke JH, Kehlmaier C (2008) Westpaläarktische Conopidae (Insecta: Diptera) in der Sammlung des Museums für Tierkunde der staatlichen naturhistorischen Sammlungen Dresden. Faunistische Abhandlungen 26: 137–147.
- Stuke JH, Schmid-Egger C (2015) Some new records of Conopidae (Diptera) from Morocco. Studia dipterologica 22(1): 56–58.
- Sturtevant AH (1921) Genetic studies on *Drosophila simulans*. II. Sex-linked group of genes. Genetics 6: 43–64. <https://doi.org/10.1093/genetics/6.1.43>
- Summer RW (1978) A record of *Crataerina hirundinis* from Morocco. Entomologist's Monthly Magazine 114: 174.
- Sun X, Marshall SA (2003) Systematics of *Phasia* Latreille (Diptera: Tachinidae). Zootaxa 276: 1–320. <https://doi.org/10.11646/zootaxa.276.1.1>
- Surcouf J (1921) Notes synonymiques sur le *Diachlorus maroccanus* Bigot (Dipt: Tabanidae). Bulletin de la Société entomologique de France 9: 143–143. <https://doi.org/10.3406/bsef.1921.26801>
- Suwito A, Toda MJ, Takamori H, Harada K, Watabe H (2014) Revision of Asian species of the *Drosophila melanica* species group (Diptera: Drosophilidae), with a description of a new species from Vietnam. Entomological Science 17: 75–85. <https://doi.org/10.1111/ens.12028>
- Szadziewski R, Dominiak P (2006) News synonyms of European Ceratopogonidae (Diptera). Annales Zoologici 56(1): 139–146.
- Theischinger G (1977) Neue Taxa von *Lunatipula* Edwards aus der mediterranen Subregion der Palaearktis (Diptera, Tipulidae, *Tipula* Linnaeus). Beaufortia 26: 1–38.
- Theischinger G (1980) Neue Taxa von *Lunatipula* Edwards aus der mediterranen Subregion der Palaearktis (Diptera, Tipulidae, *Tipula* Linnaeus), III. Fortsetzung. Beaufortia 30: 17–29.
- Theodor O (1967) An illustrated catalogue of the Rothschild Collection of Nycteribiidae (Diptera) in the British Museum (Natural History) with keys and short descriptions for the



- identification of subfamilies, genera, species and subspecies. British Museum (Natural History) Publication, 665: 1–506.
- Theowald Br (1972) Die Tipuliden Algeriens (Diptera, Tipulidae). Entomologische berichten, Amsterdam 32: 3–5.
- Theowald Br (1973) 15. Tipulidae. In: Lindner E (Ed.) Die Fliegen der palaearktischen Region, 3(2), Lief. 300: 321–404.
- Theowald Br (1980) 15. Tipulidae. In: Lindner E (Ed.) Die Fliegen der palaearktischen Region, 3(2), Lief. 324: 437–538.
- Theowald Br (1984) Taxonomie, Phylogenie und Biogeographie der Untergattung *Tipula* (*Tipula*) Linnaeus, 1758 (Insecta, Diptera, Tipulidae). Tijdschrift voor Entomologie 127: 33–78.
- Theowald Br, Oosterbroek P (1980) Zur Zoogeographie der westpalaearktischen Tipuliden, I. Die Tipuliden von Nordafrika (Diptera, Nematocera). Beaufortia 30: 179–192.
- Theowald Br, Oosterbroek P (1983) Zur Zoogeographie der westpalaearktischen Tipuliden, III. Die Tipuliden der europäischen Tiefebene (Diptera, Tipulidae). Bonner zoologische Beiträge 34: 371–394.
- Thomas A (1979) *Chrysopilus tsacasi* n. sp., a new Rhagionidae from the Moroccan Upper Atlas (Diptera, Brachycera). Bulletin de la Société d'histoire naturelle de Toulouse 115(1–2): 136–139.
- Thomas A (1985) Athericidae d'Afrique du Nord. II. *Ibisia amicorum* n. sp. (Diptera, Brachycera). Annales de Limnologie 21(1): 89–91. <https://doi.org/10.1051/limn/1985009>
- Thomas A, Gagneur J, Dakki M (1995) West paleaerctic Athericidae: the genus *Ibisia* Rondani, 1856. I: Rediscovery of *I. maroccana* (Séguy, 1930) at the locus typicus, and its ecology (Diptera: Brachycera: Orthorrhapha). Annales de la Société entomologique de France 31(1): 63–69.
- Thomas-Orillard M (1984) Modifications of mean ovariole number, fresh weight of adult females and developmental time in *Drosophila melanogaster* induced by *Drosophila C* virus. Genetics 107: 635–644. <https://doi.org/10.1093/genetics/107.4.635>
- Thompson FC (1998) Fruit Fly Expert Identification System and Systematic Information Database. Myia 9. Backhuys Publishers, 535 pp.
- Thompson WR (1950) A catalogue of the parasites and predators of insect pests. Section 1. Parasite Host Catalogue, Part 3. Parasites of the Hemiptera. Commonwealth Agricultural Bureaux, The Commonwealth Institute of Biological Control, Ottawa, Ontario, Canada, 155 pp.
- Timon-David J (1951) Contribution à la connaissance de la faune entomologique du Maroc, Diptera: Asilidae, Bombyliidae, Nemestrinidae et Syrphidae. Bulletin de la Société des sciences naturelles du Maroc, Rabat 31: 131–148.
- Tkoč M, Roháček J (2014) Diversity, distribution and biology of Romanian flat-footed flies (Diptera, Opetiidae and Platypezidae) with taxonomic notes on *Callomyia saibhira* Chandler. ZooKeys 459: 95–118. <https://doi.org/10.3897/zookeys.459.8376>
- Tliqui H, Bouazzaoui A, Agoumi A (2007) Human auricular myiasis caused by *Wohlfahrtia magnifica* (Diptera: Sarcophagidae): about three observations in Morocco. Bulletin de la Société de pathologie exotique 100(1): 61–64.
- Tmimi FZ, Faraj C, Bkhache M, Mounaji K, Failloux AB, Sarih M (2018) Insecticide resistance and target site mutations (G119S ace-1 and L1014F kdr) of *Culex pipiens* in Morocco. Parasites & Vectors 11: e51. <https://doi.org/10.1186/s13071-018-2625-y>

- Tomasovic G (1997) Deux Asilidae nouveaux pour la faune marocaine récoltés par la mission «Calypso» (Diptera, Brachyera). Bulletin et Annales de la Société royale belge d'entomologie 133: 315–316.
- Tomasovic G (2001a) Révision de matériaux typiques du Museum für Naturkunde der Humboldt-Universität, Berlin, du genre *Eutolmus* Loew, 1848 (Diptera, Asilidae) ainsi que de *E. albicapillus* Janssens, 1968, et *E. albiventris* Villeneuve, 1920. Description de *E. wahisi* sp. n. Notes fauniques de Gembloux 42: 67–83.
- Tomasovic G (2001b) Une nouvelle espèce de *Dysmachus* Loew, 1860 d'Algérie (Diptera, Asilidae). Notes fauniques de Gembloux 42: 85–87.
- Tomasovic G (2003) Etude systématique et géographique sur les espèces espagnoles de *Machimus* Loew, 1849 (Diptera: Asilidae). Notes fauniques de Gembloux 50: 99–112.
- Tomasovic G (2006) Présence de *Leptogaster cylindrica* sur l'île de Crète (Diptera: Asilidae). Notes fauniques de Gembloux 59(3): 155–156.
- Tomasovic G, Weyer G Van (2008) Une espèce nouvelle d'*Amphisbetetus* du Maroc et distribution du genre. Bulletin de la Société royale belge d'entomologie 144: 67–70.
- Touabay M, Aouad N, Mathieu J (2002) Etude hydrobiologique d'un cours d'eau du Moyen-Atlas: l'oued Tizguit (Maroc). Annales de Limnologie 38(1): 65–80. <https://doi.org/10.1051/limn/2002007>
- Trari B (1991) Culicidae (Diptera): Catalogue raisonné des peuplements du Maroc et études typologiques de quelques gîtes du Gharb et de leurs communautés larvaires. Thèse de 3<sup>ème</sup> cycle, Faculté des Sciences, Université Mohamed V, Rabat, 209 pp.
- Trari B (2017) Les moustiques (Insectes, Diptères) du Maroc: Atlas de répartition et études épidémiologiques. Thèse de Doctorat d'État, Université Mohammed V, Rabat, 334 pp.
- Trari B, Himmi O (1987) Biotypologie et répartition spatio-temporelle des Moustiques (Diptera, Culicidae) du Gharb (Maroc). C.E.A., Faculté des Sciences, Université Mohamed V, Rabat, 103 pp.
- Trari B, Dakki M, Himmi O, El Agbani MA (2002) Les moustiques (Diptera, Culicidae) du Maroc. Revue bibliographique (1916–2001) et inventaire des espèces. Bulletin de la Société de pathologie exotique 95(4): 329–334.
- Trari B, Fontenille D, Agoumi A (2004a) Le paludisme à Larache: Recherche de l'infection plasmodiale chez les anophèles (Diptera: Culicidae) par une technique immuno-enzymatique. Intérêt de l'utilisation de la technique au Maroc. Animalis 3(1): 27–29.
- Trari B, Harbach RE, Himmi O, Dakki M, Agoumi A (2004b) An inventory of the mosquitoes of Morocco. I. Genus *Anopheles* (Diptera: Culicidae). European Mosquito Bulletin 18: 1–19.
- Trari B, Carnevale P (2011) De la préélimination à l'élimination du paludisme au Maroc. Quels risques pour l'avenir? Malaria in Morocco: from pre-elimination to elimination, what risks for the future? Bulletin de la Société de pathologie exotique et de ses filiales 104: 291–295. <https://doi.org/10.1007/s13149-011-0156-2>
- Trari B, Dakki M (2017a) Caractérisation génétique du sous-groupe *Maculipennis* (Diptera Culicidae) au Maroc: un outil fondamental pour lutter contre le paludisme. Eastern Mediterranean Health Journal 23(12): 809–814. <https://doi.org/10.26719/2017.23.12.809>
- Trari B, Dakki M (2017b) Atlas des moustiques (Diptera Culicidae) du Maroc. Travaux de l'Institut Scientifique, Rabat. Série Zoologie 51: 1–128.

- Trari B, Dakki M, Harbach RE (2017) An update checklist of the Culicidae (Diptera) of Morocco, with notes on species of historical and current medical importance. *Journal of Vector Ecology* 42(1): 94–104. <https://doi.org/10.1111/jvec.12243>
- Trotter A (1904) Di alcune galle del Marocco. *Marcellia* 3: 14–15.
- Tschorsnig HP (1991) New Tachinidae Diptera from Spain and Morocco. *Stuttgarter Beiträe zur Naturkunde, Serie A (Biologie)* 459: 1–8.
- Tschorsnig HP (1997) A New Genus and four New Species of Palaearctic Tachinidae (Diptera). *Stuttgarter Beiträge zur Naturkunde, Serie A (Biologie)* 555: 1–9.
- Tschorsnig HP, Bläsius R (2001) Neue oder interessante Wirtsbefunde von Raupenfliegen (Diptera: Tachinidae) aus Glasflüglern (Lepidoptera: Sesiidae). *Mitteilungen des entomologischen Vereins Stuttgart* 36: 23–24.
- Tschorsnig HP, Herting B (1994) Die Raupenfliegen (Diptera: Tachinidae) Mitteleuropas: Bestimmungstabellen und Angaben zur Verbreitung und Ökologie der einzelnen Arten. *Stuttgarter Beiträge zur Naturkunde, Serie A (Biologie)* 506: 1–170. [Online Authorized Version of English Translation by Rayner R., Raper C., Tschorsnig H.P. and Herting B. 1994. The tachinids (Diptera: Tachinidae) of central Europe: identification keys for the species and data on distribution and ecology] <http://tachinidae.org.uk/site/downloads.php> [accessed 12.06.2006]
- Tschorsnig HP, Richter VA (1998) Family Tachinidae. In: Papp L, Darvas B (Eds) *Contributions to a Manual of Palaearctic Diptera*, Science Herald, Budapest, Vol. 3, 691–827. [880 pp]
- Tschorsnig HP, Ziegler J, Herting B (2003) Tachinid flies (Diptera: Tachinidae) from the Hautes-Alpes, France. *Stuttgarter Beiträge zur Naturkunde, Serie A (Biologie)* 656: 1–62.
- Turchetto M, Villemant-Aït L, Vanin S (2003) Two fly parasitoids collected during an entomoforensic investigation: the widespread *Nasonia vitripennis* (Hymenoptera Pteromalidae) and the newly recorded *Tachinaephagus zealandicus* (Hymenoptera Encyrtidae). *Bollettino della Società entomologica italiana* 135(2): 109–115.
- Üstüner T, Hasbenli A (2013) Contributions to Family Stratiomyidae (Diptera) Fauna of Konya Province (Turkey). *Journal of Selçuk University Natural and Applied Science* 2(4): 40–55.
- Vaillant F (1950) Contribution à l'étude des Dolichopodidae d'Algérie (Diptères). *Extrait du Bulletin de la Société d'histoire naturelle de l'Afrique du Nord* 41: 35–40.
- Vaillant F (1952) Quelques Dolichopodidae de la zone paléarctique (Diptera). *Institut royal des Sciences naturelles de Belgique* 28(65): 1–15.
- Vaillant F (1954a) Une nouvelle contribution à l'étude des Thaumaleidae (Dipt.). *L'entomologiste* 10: 94–97.
- Vaillant F (1954b) Note préliminaire sur la faune madicole (hygropétrique s. l.) de France, de Corse et d'Afrique du Nord. *L'entomologiste* 10: 37–42.
- Vaillant F (1955a) Les Dolichopodidae des rivages maritimes en Afrique du Nord (Diptères). *Bulletin de la Société des Histoires naturelles* 46: 303–308.
- Vaillant F (1955b) Recherches sur la faune madicole de France, de Corse et d'Afrique du Nord. Thèse, Faculté des Sciences, Université Paris, A-2744, 258 pp.
- Vaillant F (1956a) Contribution à l'étude des Diptères Empididae du Grand Atlas Marocain. I. Hemerodrominae et Atalantinae. *Société des sciences naturelles et physiques du Maroc Tome XXXVI, 1<sup>er</sup> trimestre*: 61–71.

- Vaillant F (1956b) Recherches sur la faune madicole de France, de Corse et d'Afrique du Nord. Mémoires du Muséum national d'histoire naturelle. Nouvelle série, série A. Zoologie Tome XI, 258 pp.
- Vaillant F (1956c) Les Blepharoceridae d'Afrique du Nord. Bulletin de la Société entomologique de France 61: 113–120. <https://doi.org/10.3406/bsef.1956.18843>
- Vaillant F (1959) Quelques Dixidae paléarctiques et les habitats de leurs larves. Bulletin de la Société entomologique de France 64: 178–186. <https://doi.org/10.3406/bsef.1959.20487>
- Vaillant F (1964) Revision des Empididae Hemerodrominae de France, d'Espagne et d'Afrique du Nord. Annales de la Société entomologique de France 133: 143–170.
- Vaillant F (1965) Quelques Dixidae paléarctiques nouveaux ou mal connus (Diptera). Annales de la Société entomologique de France I(4): 789–795.
- Vaillant F (1978) 9d. Psychodidae – Psychodinae. In: Lindner E (Ed.) Die Fliegen der palaearktischen Region Vols. 317, 207–238.
- Vaillant F (1989) Contribution à l'étude des Diptères Lonchopteridae d'Europe et d'Afrique du Nord. Bulletin de la Société Vaudoise des Sciences Naturelles 79(3): 209–229.
- Vaillant F, Moubayed-Breil J (1987) Cinq espèces nouvelles de Diptères Psychodidae Psychodinae du Liban. Annales de Limnologie 23(2): 121–127. <https://doi.org/10.1051/limn/1987008>
- Vaillant F, Gagneur J (1998) The Diptera Empididae Hemerodromiinae from western Algeria and the Middle Atlas of Morocco. Annales de la Société entomologique (N.S.) 34(4): 365–384.
- Vaillant F, Moubayed-Breil J (1998) Notes sur les Diptères Empididae Hemerodromiinae du Liban. Revue française d'Entomologie (N.S.) 20(1–2): 51–60.
- Vala JC (1989) Diptères Sciomyzidae Euro-méditerranéens. Faune de France. France et Régions limitrophes. N° 72. Fédération française des Sociétés des Sciences naturelles Paris, 300 pp. [124 figs., 26 maps, 9 pls]
- Vala JC, Reidenbach JM (1982) Description du néallotype mâle de *Euthycera algira* (Macquart, 1849) et redescription du lectotype (Dipt., Sciomyzidae). Bulletin de la Société entomologique de France 87: 34–38. <https://doi.org/10.3406/bsef.1982.18000>
- Vala JC, Ghamizi M (1991) Sciomyzidae du Maroc (Diptera). L'entomologiste 47(4): 205–208.
- Valdés B, Rejdali M, Achhal el Kadmiri A, Jury JL, Montserrat JM (2002) Catalogue des plantes vasculaires du nord du Maroc, incluant des clés d'identification. Consejo superior de investigacione científicas, 1007 pp. [Book in Spanish]
- Vaňhara J, Rozkošný R (1997) Czech and Slovak Dipterological Literature 1986–1995. Folia Facultatis Scientiarum Naturalium. Universitatis Masarykianae Brunensis, Biologia 95: 1–177.
- Vayssière P (1920) Les insectes nuisibles aux cultures du Maroc (2<sup>ème</sup> Note). Bulletin de la Société entomologique de France 25(15): 256–259. <https://doi.org/10.3406/bsef.1920.26676>
- Venter GJ, Graham SD, Hamblin C (2000) African horse sickness epidemiology: vector competence of South African *Culicoides* species for virus serotypes 3, 5 and 8. Medical and Veterinary Entomology 14(3): 245–250. <https://doi.org/10.1046/j.1365-2915.2000.00245.x>
- Verbeke J (1964) Contribution à l'étude des diptères malacophages. II. Données nouvelles sur la taxonomie et la répartition géographique des Sciomyzidae paléarctiques. Institut royal des sciences naturelles de Belgique Tome XL, N° 8, 1–27.

- Vermoolen D (1983) The *Tipula* (*Acutipula*) *maxima* group (Insecta, Diptera, Tipulidae). 1. Taxonomy and Distribution. *Bijdragen tot de Dierkunde* 53: 49–81. <https://doi.org/10.1163/26660644-05301004>
- Verves Yu-G (2003) A preliminary list of species of Calliphoridae and Sarcophagidae (Diptera) of the Republic of Seychelles. *Phelsuma* 11 (supplement A).
- Verves Yu-G (2004) A review of the «*Onesia*» generic group (Diptera: Calliphoridae). Part 2. The species of genus *Bellardia* Robineau-Desvoidy. *Far Eastern Entomologist* 135: 1–23.
- Verves Yu-G (2019) Review of Sarcophagidae (Diptera) of North African countries with new faunistic data from Algeria. *Halteres* 10: 62–74. <https://doi.org/10.5281/zenodo.3594368>
- Vialatte C (1922) Le paludisme au Maroc: épidémiologie-prophylaxie. *Archives de l'Institut Pasteur d'Afrique du Nord* II(4): 596–621.
- Vialatte C (1923) Contribution à la recherche de l'aire de distribution de *Stegomyia fasciata*. Son existence à Marrakech. *Archives de l'Institut Pasteur d'Algérie* 1: 688–690.
- Viamonte JMR (1950) Los anofelinos de España y de la zona española del Protectorado de Marruecos. Su relación con la difusión del paludismo. (Tesis Doctoral). *Revista de Sanidad e Higiene Pública* 24: 213–295.
- Viamonte JMR, Ramirez A (1945) Nota previa sobre el anofelismo de la zona del Protectorado español de Marruecos. *Revista de Sanidad e Higiene Pública* 10: 669–674.
- Viamonte JMR, Ramirez A (1946) Culicinos de la zona española de Marruecos. *Revista de Sanidad e Higiene Pública* 20: 449–455.
- Vidal JC, Aboussaid H, Oufdou K, El Messoussi S, Castañera P, González-Cabrera J (2008) Characterization of *Bacillus thuringiensis* strain collections from Spain and Morocco ecosystems and evaluation of their insecticidal activity against *Ceratitis capitata* (Diptera: Tephritidae). First Meeting of TEAM, Palma de Mallorca, 7–8 April.
- Vikhrev NE (2011a) Review of the Palearctic members of the *Lispe tentaculata* species-group (Diptera, Muscidae): revised key, synonymy and notes on ecology. *ZooKeys* 84: 59–70. <https://doi.org/10.3897/zookeys.84.819>
- Vikhrev NE (2011b) Taxonomic notes on the *Lispe leucospila* species-group (Diptera: Muscidae). *Russian entomological Journal* 20(2): 215–218. <https://doi.org/10.15298/rusentj.20.2.14>
- Vikhrev NE (2012a) Notes on taxonomy of *Lispe* Latreille (Diptera: Muscidae). *Russian entomological Journal* 21(1): 107–112. <https://doi.org/10.15298/rusentj.21.1.14>
- Vikhrev NE (2012b) Revision of the *Lispe longicollis*-group (Diptera, Muscidae). *ZooKeys* 235: 23–39. <https://doi.org/10.3897/zookeys.235.3306>
- Vikhrev NE (2012c) Four new species of *Lispe* Latreille, 1796 (Diptera: Muscidae) with taxonomic notes on related species. *Russian entomological Journal* 21(4): 423–433. <https://doi.org/10.15298/rusentj.21.4.08>
- Vikhrev NE, Ge YQ, Zhang D (2016) On taxonomy of the *Lispe caesia*-group (Diptera: Muscidae). *Russian entomological Journal* 25(4): 407–410. <https://doi.org/10.15298/rusentj.25.4.10>
- Vikhrev NE, Erofeeva EA (2018) Review of the *Phaonia pallida* group (Diptera: Muscidae). *Russian entomological Journal* 27(3): 315–322. <https://doi.org/10.15298/rusentj.27.3.14>
- Villeneuve J (1932) Description de Myodaires supérieurs du Nord Africain (Dipt., Larvaevoridae). *Bulletin de la Société entomologique de France* 19: 284–286. <https://doi.org/10.3406/bsef.1932.14493>

- Villeneuve J (1933) A propos de deux diptères inédits du Maroc. Bulletin de la Société entomologique de France 38: 102–104. <https://doi.org/10.3406/bsef.1933.14552>
- Villeneuve J (1941) Myodaires supérieurs nouveaux (Dipt.). I. Afrique du Nord. Bulletin de la Société entomologique de France 8: 122–126. <https://doi.org/10.3406/bsef.1941.15524>
- Vitte B (1988) Etude des Diptères Ephydrides du Maroc. II. Les Ephydrides des lacs et des ruisseaux du nord du Moyen-Atlas marocain (Diptera, Brachycera). Nouvelle Revue d'Entomologie (N.S.) 5(4): 389–395.
- Vitte B (1989) Etude des Diptères Ephydrides du Maroc, II. Deux nouvelles espèces du genre *Hydrellia* (Diptera, Brachycera). Nouvelle Revue d'Entomologie (N.S.) 6(3): 259–263.
- Vitte B (1991) Les Ephydrides du Rif et de la Plaine au nord de Casablanca (Diptera, Brachycera); description d'une nouvelle espèce. Bollettino del Museo civico di Storia naturale di Venezia 40: 21–36.
- Vitte B (1992) Une nouvelle espèce du genre *Allotrichoma* Becker (Diptera, Brachycera). Étude des Diptères Ephydrides du Maroc, IV. Nouvelle Revue d'Entomologie (N.S.) 9(3): 255–258.
- Vujić A, Marcos-Garcia MA, Sarıbiyık S, Ricarte A (2011) New data on the *Merodon* Meigen, 1803 fauna (Diptera: Syrphidae) of Turkey including description of a new species and changes in the nomenclatural status of several taxa. Annales de la Société entomologique de France (N.S.) 47(1–2): 78–88. <https://doi.org/10.1080/00379271.2011.10697699>
- Vujić A, Radenković S, Likov L (2018) Revision of the Palaearctic species of the *Merodon desuturinus* group (Diptera, Syrphidae). ZooKeys 771: 105–138. <https://doi.org/10.3897/zookeys.771.20481>
- Vujić A, Likov L, Radenković S, Tubić NK, Djan N, Šebić A, Pérez-Bañón C, Barkalov A, Hayat R, Rojo S, Andrić A, Ståhls G (2020a) Revision of the *Merodon serrulatus* group (Diptera, Syrphidae). ZooKeys 909: 79–158. <https://doi.org/10.3897/zookeys.909.46838>
- Vujić A, Radenković S, Likov L, Andrić A, Janković M, Ačanski J, Popov G, de Courcy Williams M, Šašić Zorić L, Djan M. (2020b) Conflict and congruence between morphological and molecular data: revision of the *Merodon constans* group (Diptera: Syrphidae). Invertebrate Systematics 34: 406–448. <https://doi.org/10.1071/IS19047>
- Vujić A, Radenković S, Likov L, Veselić S (2021a) Taxonomic complexity in the genus *Merodon* Meigen, 1803 (Diptera, Syrphidae). ZooKeys 1031: 85–124. <https://doi.org/10.3897/zookeys.1031.62125>
- Vujić A, Tot T, Andrić A, Ačanski J, Šašić Zorić L, Pérez-Bañón C, Aracil A, Veselić S, Arok M, Mengual X, van Eck A, Rojo S, Radenković S (2021b) Review of the *Merodon natans* group with description of a new species, a key to the adults of known species of the *natans* lineage and first descriptions of some preimaginal stages. Arthropod Systematics & Phylogeny 79: 343–378. <https://doi.org/10.3897/asp.79.e65861>
- Vujić A, Speight MCD, de Courcy Williams M, Rojo S, Ståhls G, Radenković S, Likov L, Miličić M, Pérez-Bañón C, Falk S, Petanidou T (2020c) Atlas of the hoverflies of Greece (Diptera: Syrphidae). Brill, Leiden, 384 pp. <https://doi.org/10.1163/9789004334670>
- Wagner R (1990) Family Psychodidae. In: Soós Á, Papp L (Eds) Catalogue of Palaearctic Diptera. 2. Psychodidae – Chironomidae. Akadémiai Kiadó, Budapest, 499 pp.



- Walker F (1848) List of the specimens of Dipterous insects. The Collection of British Museum (Natural History). Department of Zoology. Edited by Gray John Edward Volume 1, Subject: Diptera.
- Walker F (1849) List of the specimens of Dipterous insects of the British Museum. London 4: 689–1172.
- Weinberg M, Bächli G (2002) New records of *Acrocerina sanguinea* (Meigen) and some other Acroceridae species (Diptera). Mitteilungen der schweizerischen entomologischen Gesellschaft 75: 113–118.
- Weinberg M, Blasco-Zumeta J (2004) Robber flies (Diptera, Asilidae) of *Juniperus thurifera* L. forest of los Monegros region (Zaragosa, Spain). Lucas Mallada 11: 245–260.
- Werner F (1938) Ergebnisse einer zoologischen Forschungsreise nach Marokko unternommen 1930 mit Unterstützung der Akademie der Wissenschaften in Wien von Franz Werner und Richard Ebner. VII. Insekten, Arachnoideen und Crustaceen. Sitzungsberichte der kaiserlichen Akademie der Wissenschaften in Wien 147(1): 111–134.
- White IM (1989) A new species of *Terellia* Robineau-Desvoidy associated with *Centaurea solstitialis* L. and a revision of the *Terellia virens* (Loew) species group (Diptera: Tephritidae). Entomologist's Monthly Magazine 125: 53–62.
- White IM, Korneyev VA (1989) A revision of the Western Palaearctic species of *Urophora* Robineau-Desvoidy (Diptera Tephritidae). Systematic Entomology 14: 327–374. <https://doi.org/10.1111/j.1365-3113.1989.tb00289.x>
- White IM, Marquardt K (1989) A revision of the genus *Chaetorellia* Hendel (Diptera: Tephritidae) including a new species associated with spotted knapweed, *Centaurea maculosa* Lam. (Asteraceae). Bulletin of Entomological Research 79: 453–487. <https://doi.org/10.1017/S0007485300018459>
- Whitmore D (2009) A review of the *Sarcophaga* (*Heteronychia*) (Diptera: Sarcophagidae) of Sardinia. Zootaxa 2318: 566–588. <https://doi.org/10.11646/zootaxa.2318.1.24>
- Whitmore D (2011) New taxonomic and nomenclatural data on *Sarcophaga* (*Heteronychia*) (Diptera: Sarcophagidae), with description of six new species. Zootaxa 2778: 1–57.
- Whitmore D, Pape T, Cerretti P (2013) Phylogeny of *Heteronychia*: the largest lineage of *Sarcophaga* (Diptera: Sarcophagidae). Zoological Journal of the Linnean Society 169(3): 604–639. <https://doi.org/10.1111/zoj.12070>
- Wiedemann CRW (1824) Munus rectoris in Academia Christiana Albertina aditurus analecta entomologica ex Museo Regio Havniensis maxime congesta profert iconibusque illustrat. Kiel: Regio typographico scholarum, 60 pp., 1 plate. <https://doi.org/10.5962/bhl.title.77322>
- Wiedemann CRW (1830) Aussereuropäische zweiflügelige Insekten. Als Fortsetzung des Meigenschen Werkes. Zweither Teil. Hamm, Schulzische Buchhandlung XII + 684 pp., Tafeln VII–IX, Xa–Xb.
- Wiegmann BM, Trautwein MD, Winkler IS, Barr NB, Kim JW, Lambkin C, Bertone MA, Cas- sel BK, Bayless KM, Heimberg AM, Wheeler BM, Peterson KJ, Pape T, Sinclair BJ, Skev- ington JH, Blagoderov V, Caravas J, Kutty SN, Schmidt-Ott U, Kampmeier GE, Thomp- son FC, Grimaldi DA, Beckenbach AT, Courtney GW, Friedrich M, Meier R, Yeates DK (2011) Episodic radiations in the fly tree of life. Proceedings of the National Academy of Sciences United States 108: 5690–5695. <https://doi.org/10.1073/pnas.1012675108>

- Wilson AJ, Mellor PS (2009) Bluetongue in Europe: past, present and future. *Philosophical Transactions of the Royal Society of London B: Biological Sciences* 364: 2669–2681. <https://doi.org/10.1098/rstb.2009.0091>
- Winterton SL, Hauser M, Haitham BM, Badrawy HBM (2012) A Remarkable new genus of *Stiletto* flies from Egypt, with a key to Palearctic genera of Phycinae (Diptera, Therevidae). *ZooKeys* 184: 35–45. <https://doi.org/10.3897/zookeys.184.2759>
- Wolff M, Nihei SS, De Carvalho CJB [Eds] (2016) Catalogue of Diptera of Colombia. *Zootaxa* 4122, 949 pp. <https://doi.org/10.11646/zootaxa.4122.1.1>
- Wood JH (1912) Notes on British *Phora* (corrections and additions). *Entomologist's Monthly Magazine* 48: 94–99, 166–181.
- Woodley NE (2001) A World Catalog of the Stratiomyidae (Insecta: Diptera). *Myia* 11: 1–473. [Backhuys Publishers, Leiden]
- Woźnica AJ (2011) Taxonomic notes on the genus *Gymnomus* Loew, with a description of a new species from Morocco (Diptera: Heleomyzidae). *Polish Journal of Entomology* 80(3): 579–586. <https://doi.org/10.2478/v10200-011-0045-9>
- Wülker W (1959) Zur Kenntnis der Gattung *Psectrocladius* Kieffer (Diptera, Chironomidae). Individuelle Variabilität, Grenzen und Möglichkeiten der Artentrennung, Ökologie und Verbreitung. *Archiv für Hydrobiologie Supplement* 24: 1–66.
- Yang D, Zhang KY, Yao G, Zhang JH (2007) World catalogue of Empididae (Insecta: Diptera). China Agricultural University Press, Beijing, 599 pp.
- Yaran M, Kütük M (2012) The fruit flies (Diptera: Tephritidae) fauna of Gaziantep province, Turkey. *Munis Entomology & Zoology* 7(2): 957–969.
- Yassin A, David JR (2010) Revision of the afrotropical species of *Zaprionus* (Diptera, Drosophilidae), with descriptions of two new species and notes on internal reproductive structures and immature stages. *ZooKeys* (51): 33–72. <https://doi.org/10.3897/zookeys.51.380>
- Yassin A, Orgogozo V (2013) Coevolution between male and female genitalia in the *Drosophila melanogaster* species subgroup. *PLoS ONE* 8(2): e57158. [12 pp] <https://doi.org/10.1371/journal.pone.0057158>
- Yazough A, Klein O (1999) Problème et gestion de l'*Orobanche* au Maroc. In: Kroschel J, Abderabihi M, Betz H (Eds) *Advances in Parasitic Weed Control at On-farm Level. Vol. II. Joint Action to Control Orobanche in the WANA Region*, 3–16. [IX + 347 pp]
- Yimlahi D, Üstüner T, Zinebi S, Belqat B (2017) New records of the soldier flies of Morocco with a bibliographical inventory of the North African fauna (Diptera, Stratiomyidae). *ZooKeys* 709: 87–125. <https://doi.org/10.3897/zookeys.709.13364>
- Zaitzev VF (1984) Family Ulidiidae. In: Soós Á, Papp L (Eds) *Catalogue of Palearctic Diptera. Vol. 9: Micropezidae – Agromyzidae*. Akadémiai Kiadó, Budapest, 59–66. [460 pp]
- Zaitzev VF (1999) On the fauna of Flies of the family Bombyliidae (Diptera) of Israel V *Entomological Review* 79(6): 640–653. [Originally published in Russian. In: *Entomologicheskoe Obozrenie* 78(1): 703–718]
- Zaitzev VF (2003) A New Genus and New Species of the Family Bombyliidae (Diptera) from the South-western Palearctic Region. *Entomological Review* 83(5): 599–605. [Originally published in Russian. In: *Entomologicheskoe Obozrenie* 82(4): 909–916]



- Zaitzev VF (2005) New species of Flies of the family Bombyliidae (Diptera) from the Palaearctic Region. Entomological Review 85(6): 702–706. [Originally published in Russian. In: Entomologicheskoe Obozrenie 84(3): 767–772]
- Zaitzev VF (2006) New Species of the Genus *Chalcochiton* Loew (Diptera, Bombyliidae) from Spain and Morocco. Entomological Review 86(6): 728–732. [Originally published in Russian. In: Entomologicheskoe Obozrenie 85(3): 680–685] <https://doi.org/10.1134/S0013873806060121>
- Zaitzev VF (2007) Contributions to the Palaearctic Fauna of the Dipteran Families Bombyliidae and Mythicomyiidae (Diptera) I. Entomological Review 87(2): 159–173. [Originally published in Russian. In: Entomologicheskoe Obozrenie 86(1): 83–99] <https://doi.org/10.1134/S0013873807020054>
- Zaitzev VF (2008) Contributions to the Palaearctic Fauna of the Dipteran Families Bombyliidae and Mythicomyiidae (Diptera): II. Entomological Review 88(2): 186–198. [Originally published in Russian. In: Entomologicheskoe Obozrenie 87(1): 74–88] <https://doi.org/10.1134/S0013873808020061>
- Zarrouk A, Kahime K, Boussaa S, Belqat B (2016) Ecological and epidemiological status of species of the *Phlebotomus perniciosus* complex (Diptera: Psychodidae, Phlebotominae) in Morocco. Parasitology Research 115(3): 1045–1051. <https://doi.org/10.1007/s00436-015-4833-0> [Epub 2015 Nov 23]
- Zatwarnicki T (1987) New synonyms and records of Palaearctic *Scatophila* (Diptera, Ephydriidae). Polskie pismo entomologiczne 57(2): 277–298.
- Zatwarnicki T (1988) Materials to the knowledge of the genus *Hydrellia* Robineau-Desvoidy (Diptera, Ephydriidae). Polskie pismo entomologiczne 58(3): 587–634.
- Zatwarnicki T (1991) Changes in nomenclature and synonymies of some genera and species of Ephydriidae (Diptera). Deutsche entomologische Zeitschrift (N.F.) 39(4–5): 295–333. <https://doi.org/10.1002/mmnd.4800380403>
- Zatwarnicki T (2018) Solving the puzzle of taxonomic position of the *petroleum* fly by resurrection of *Diasemocera* Bezzi from *Psilopa* Fallén (Diptera: Ephydriidae) with proposed specific and generic synonymies. Annales Zoologici (Warszawa) 68(3): 527–552. <https://doi.org/10.3161/00034541ANZ2018.68.3.012>
- Zatwarnicki T, Mathis WN (2011) Heterogeneity in shore flies – the case of *Glenanthe* Haliday (Diptera: Ephydriidae) in the Old World. Annales de la Société entomologique de France (N.S.) 47(3–4): 418–443. <https://doi.org/10.1080/00379271.2011.10697735>
- Zetterstedt JW (1848) Diptera Scandinaviae disposita et descripta. Lundae 7: 2581–2934.
- Ziegler J (2011) First records and other interesting finds of Tachinidae from Israel and adjacent areas. In: O'Hara J (Ed.) The Tachinid Times 24: 7–11.
- Ziegler J (2012) Rezente Arealerweiterungen bei Wanzenfliegen (Diptera: Tachinidae, Phasiinae) in Nordostdeutschland und eine Übersicht zur Gesamtverbreitung von fünf Arten. Studia dipterologica 18[2011]: 29–54.
- Zimina LV (1975) Conopidae (Diptera) of the fauna of the USSR. Genus *Sicus* Scop., 1763. Entomologicheskoe Obozrenie 54: 180–185.

- Zimsen E (1964) The type material of I.C. Fabricius. Munksgaard, Copenhagen, 656 pp.
- Zumt F (1956) 64i. Calliphorinae. In: Lindner E (Ed.) Die Fliegen der palaearktischen Region 11: 1–140.
- Zuska J, Pont A (1994) Family Sepsidae. In: Soós Á, Papp L (Eds) Catalogue of Palaearctic Diptera Vol. 9. Akadémiai Kiadó, Budapest, 154–167.
- Zwick P (2013) *Liponeura rifincola* spec. nov., another new net-winged midge (Diptera: Blephariceridae) from North Africa. *Studia dipterologica* 20(2): 332–334.

## Index by families

ACROCERIDAE 175	DIXIDAE 60	PIPUNCULIDAE 234
AGROMYZIDAE 279	DOLICHOPODIDAE 218	PLATYPEZIDAE 233
ANISOPODIDAE 144	DROSOPHILIDAE 306	PLATYSTOMATIDAE 260
ANTHOMYIIDAE 323	DRYOMYZIDAE 275	POLLENIIDAE 340
ANTHOMYZIDAE 284	EMPIDIDAE 215	PSILIDAE 258
ASILIDAE 177	EPHYDRIDAE 309	PSYCHODIDAE 35
ASTEIIDAE 284	FANNIIDAE 326	PTYCHOPTERIDAE 43
ATELESTIDAE 215	HELCOMYZIDAE 275	RHAGIONIDAE 166
ATHERICIDAE 166	HELEOMYZIDAE 298	RHINIIDAE 341
AULACIGASTRIDAE 284	HIPPOBOSCIDAE 319	RHINOPHORIDAE 342
BIBIONIDAE 145	HYBOTIDAE 229	SARCOPHAGIDAE 343
BLEPHARICERIDAE 144	KEROPLATIDAE 151	SCATHOPHAGIDAE 337
BOMBYLIIDAE 188	LAUXANIIDAE 272	SCATOPSIDAE 41
BRAULIDAE 305	LIMONIIDAE 20	SCENOPINIDAE 211
CALLIPHORIDAE 337	LONCHAEIDAE 258	SCIARIDAE 157
CAMILLIDAE 305	LONCHOPTERIDAE 233	SCIOMYZIDAE 275
CANACIDAE 286	MICROPEZIDAE 258	SEPSIDAE 278
CARNIDAE 287	MILICHIIDAE 295	SIMULIIDAE 118
CECIDOMYIIDAE 146	MUSCIDAE 327	SPHAEROCERIDAE 300
CERATOPOGONIDAE 61	MYCETOPHILIDAE 152	STRATIOMYIDAE 162
CHAMAEMYIIDAE 270	MYDIDAE 209	STREBLIDAE 322
CHAOBORIDAE 43	MYTHICOMYIIDAE 210	SYRPHIDAE 235
CHIRONOMIDAE 70	NEMESTRINIDAE 176	TABANIDAE 167
CHLOROPIDAE 287	NYCTERIBIIDAE 321	TACHINIDAE 349
CHYROMYIDAE 296	ODINIIDAE 285	TEPHRITIDAE 260
CLUSIIDAE 285	OESTRIDAE 339	THAUMALEIDAE 143
COELOPIDAE 274	OPOMYZIDAE 285	THEREVIDAE 212
CONOPIDAE 254	PALLOPTERIDAE 259	TIPULIDAE 28
CRYPTOCHETIDAE 306	PEDICIIDAE 27	TRICHOCERIDAE 34, 41
CULICIDAE 43	PHORIDAE 232	ULIDIIDAE 269
DIASTATIDAE 306	PIOPHILIDAE 259	VERMILEONIDAE 174

## Index by genera

- Ablabesmyia* 71  
*Acanthiophilus* 263, 264, 266  
*Acanthogeron* 196, 197  
*Acanthothereva* 213  
*Acartomyia* 50  
*Achaetorisa* 311  
*Aciura* 263  
*Acnephalum* 186  
*Acricotopus* 79  
*Acrocera* 175  
*Acrocholidia* 321  
*Acrosathe* 213  
*Actia* 361  
*Actocetor* 309  
*Actorthia* 212  
*Acutipula* 30, 31  
*Adia* 323  
*Aedes* 50, 51, 52  
*Aedimorphus* 50  
*Afroepitriptus* 178  
*Afroholopogon* 184  
*Agromyza* 279, 280, 281, 282  
*Allodiopsis* 152  
*Allopectrocladius* 95  
*Allotheobaldia* 57  
*Allotrichoma* 315, 316  
*Alluaudomyia* 69  
*Alsomyia* 352  
*Amauromyza* 281  
*Amictus* 198, 207  
*Amobia* 343  
*Amphicestonia* 352  
*Amphisbetetus* 184  
*Amygdalops* 284  
*Anagnota* 284  
*Anahydrophorus* 222  
*Anapausis* 41, 42  
*Anasimyia* 237  
*Anastoechus* 192  
*Anatella* 152  
*Ancylorhynchus* 184  
*Anopheles* 44, 46, 47, 48, 49  
*Anthomyia* 323  
*Anthrax* 199, 201, 202, 205, 206  
*Antiphrisson* 178  
*Anurophylla* 354, 363  
*Aphaniosoma* 296, 297  
*Aphanotrigonum* 290, 291, 295  
*Apheobantus* 201, 208  
*Aphria* 359  
*Aphrosylus* 222  
*Aplomyia* 352  
*Apoclea* 177, 178  
*Apodacra* 343  
*Apolysis* 188  
*Apotropina* 295  
*Apsectrotanypus* 71  
*Ardoptera* 215  
*Argyra* 218, 219, 227  
*Asilus* 178  
*Asmeringa* 316  
*Asphondylia* 146, 147  
*Assuania* 288  
*Asteia* 284  
*Astomella* 176  
*Asyndetus* 219  
*Atelestus* 215  
*Atherigona* 327  
*Atherix* 166  
*Athrycia* 350, 362  
*Athyroglossa* 315  
*Atissa* 317  
*Atylomyia* 353  
*Atylotus* 169, 170, 171, 172, 173, 174  
*Aulacigaster* 284  
*Aulagromyza* 281, 283  
*Austrolimnophila* 24  
*Austrosciara* 157  
*Avaritia* 61, 62  
*Azana* 157  
*Azelia* 327  
*Bactrocera* 261  
*Baeotendipes* 99  
*Baeoura* 20  
*Baldratia* 147  
*Barraudius* 52  
*Basilia* 321  
*Baumhaueria* 354  
*Bayeriola* 147  
*Bazarella* 38  
*Bellardia* 337, 338  
*Beltranmyia* 62  
*Bercaea* 346  
*Beris* 162  
*Bessa* 353  
*Besseria* 356, 363  
*Bezzia* 70  
*Bibio* 145  
*Bicellaria* 229  
*Bifronsina* 301  
*Billaea* 349  
*Bithia* 359  
*Blaesoxipha* 345, 346  
*Blastomyia* 147  
*Blepharipa* 354, 363  
*Boletina* 156  
*Bombomyia* 193  
*Bombylisoma* 193  
*Bombylius* 193, 194, 195, 197, 198, 208  
*Borborillus* 300  
*Boreoheptagyia* 76  
*Botanophila* 323  
*Brachydeutera* 311  
*Brachylimnophila* 24  
*Brachyopa* 235  
*Brachypalpus* 247  
*Brachytarsina* 322  
*Bradysia* 157, 158, 159  
*Bradysiopsis* 159  
*Braueriella* 147  
*Braula* 305  
*Brevicornu* 152  
*Brilla* 79  
*Bryophaenocladius* 79, 80  
*Buchonomyia* 70  
*Calamoncosis* 291  
*Callicera* 236, 237  
*Calliopum* 272  
*Calliphora* 338

- Callostoma* 199  
*Calythea* 325  
*Camarota* 288  
*Camilla* 305, 306  
*Campichoeta* 306  
*Campiglossa* 264  
*Campsicnemus* 227  
*Camptochaeta* 159  
*Camptocladius* 80  
*Camptopelta* 163  
*Campylomyza* 146  
*Canace* 286  
*Capitites* 264  
*Capnoptera* 288  
*Capparimyia* 260  
*Carcelia* 350, 352, 362  
*Cardiocladius* 80  
*Carpomya* 268  
*Caulochironomus* 103  
*Cellia* 47, 48, 49  
*Cephalopina* 339  
*Ceracia* 351  
*Ceratitis* 261  
*Ceratochaetops* 354  
*Ceriana* 237  
*Cerodontha* 281  
*Ceromasia* 355  
*Ceroptera* 301  
*Ceroxys* 269  
*Cetema* 288  
*Chaetoapnaea* 311  
*Chaetocladius* 80, 81  
*Chaetopodella* 301  
*Chaetorellia* 267  
*Chaetostomella* 267  
*Chalarus* 234  
*Chalcochiton* 198, 199  
*Chamaedipsia* 216  
*Chamaemyia* 270, 271  
*Chamaepsila* 258  
*Chamaerops* 9  
*Chaoborus* 43  
*Cheilosia* 245, 246  
*Cheilotrichia* 20  
*Chersodromia* 229  
*Chetogena* 353, 354, 363  
*Chetostoma* 269  
*Chironomus* 99, 100, 101  
*Chlorichaeta* 315  
*Chloromyia* 164  
*Chlorops* 287, 288, 289, 290  
*Chorisops* 162  
*Chromatomyia* 281, 282  
*Chrysanthemyia* 213  
*Chrysogaster* 235, 236, 239  
*Chrysomya* 338  
*Chrysopilus* 166  
*Chrysops* 167  
*Chrysotimus* 225  
*Chrysotoxum* 249, 250  
*Chrysotus* 219  
*Chyromyia* 298  
*Cladopelma* 101  
*Cladotanytarsus* 110, 111, 115  
*Clairvillia* 357, 363  
*Clanoneurum* 310  
*Claraeola* 234  
*Clemelis* 355  
*Clinocera* 215, 216  
*Clistoabdominalis* 234  
*Clogmia* 38  
*Clusioides* 285  
*Clytiomyia* 357  
*Coboldia* 41  
*Coelopa* 274  
*Coelosia* 156  
*Coenosia* 329  
*Compsilura* 351  
*Conchapelopia* 72  
*Conioscinella* 291, 293  
*Cononedys* 202, 208  
*Conophorus* 195, 196, 207  
*Conops* 254, 255, 256  
*Contarinia* 147, 148  
*Coproica* 301, 302  
*Copromyza* 300  
*Coptophlebia* 217  
*Coquillettidia* 59  
*Cordyla* 152, 153  
*Corynoneura* 81  
*Corynoneurella* 82  
*Corynoptera* 159, 160  
*Cosmina* 341  
*Crataerina* 319, 320  
*Craticulina* 343  
*Cricotopus* 82, 83, 84, 85  
*Crocidium* 198, 208  
*Crosskeyellum* 122  
*Crossopalpus* 229, 230  
*Crumomyia* 300  
*Cryptochaetum* 306  
*Cryptochetum* 306  
*Cryptochironomus* 101  
*Cryptonevra* 289  
*Culex* 52, 53, 55, 56, 57  
*Culicella* 58  
*Culicoides* 61, 62, 63, 64, 65, 66, 67, 68, 69  
*Culiseta* 57, 58, 59  
*Cylindromyia* 356  
*Cyllenia* 199  
*Cyrtisiopsis* 211  
*Cyrtophloebea* 350  
*Cyrtosia* 210, 211  
*Cyrtus* 175  
*Cytharea* 199, 200, 208  
*Dactylolabis* 21, 23  
*Dacus* 261  
*Dahliana* 50  
*Dalmannia* 256  
*Dasineura* 148  
*Dasiops* 258  
*Dasybasis* 169  
*Dasydorylas* 234  
*Dasyhelea* 70  
*Dasymolophilus* 23  
*Dasyphora* 332  
*Dasygogon* 181  
*Dasyrhamphis* 169, 170  
*Dasysyrphus* 250  
*Delia* 323, 324  
*Demicryptochironomus* 101  
*Desmatoneura* 207  
*Desmella* 265  
*Desmometopa* 295  
*Diamesa* 77, 78  
*Diaphorus* 219  
*Diasemocera* 310  
*Diastata* 306  
*Dichaetophora* 276  
*Diclasioipa* 314

- Dicranomyia* 25, 26  
*Dicranophragma* 24  
*Dicranoptycha* 26  
*Dicranota* 27, 28  
*Dicrodiplosis* 148  
*Dicrotendipes* 101, 102  
*Dilophus* 145, 146  
*Dioctria* 182, 183  
*Dionomelia* 358, 363  
*Diplonevra* 232  
*Dischistus* 196, 197  
*Discocerina* 314, 315  
*Discomyza* 310  
*Ditaeniella* 275  
*Ditrichophora* 314  
*Dixa* 60, 61  
*Dixella* 61  
*Dizygomyza* 281  
*Docosia* 156  
*Dolichocephala* 215  
*Dolichopeza* 28  
*Dolichopus* 219, 220, 221  
*Dolichotachina* 343  
*Dorycera* 269  
*Drapetis* 229, 230  
*Drino* 350, 352, 363  
*Drosophila* 306, 307, 308  
*Dryomyia* 148  
*Dryope* 275  
*Dryxo* 317  
*Dufouria* 349  
*Dysmachus* 178, 179  
*Eccoctopus* 179  
*Eclimus* 197  
*Ectaetia* 41  
*Ectinocerella* 169  
*Ectophasia* 357  
*Efflatounia* 197  
*Elachiptera* 287, 291, 292, 295  
*Elaphropeza* 230  
*Elephantinosoma* 316  
*Elgiva* 276  
*Eliazeta* 357  
*Ellipteroides* 20, 21  
*Eloeophila* 24  
*Elomya* 358  
*Emodotipula* 31  
*Empeda* 20  
*Empidideicus* 210  
*Empis* 217  
*Endochironomus* 102  
*Engelepogon* 179  
*Ensina* 263  
*Ephydra* 312  
*Epidapus* 160  
*Epimadiza* 292  
*Epistrophe* 250, 252  
*Episyrphus* 250  
*Epithalassius* 222  
*Epitriptus* 179  
*Eremisca* 179  
*Eremonotus* 178  
*Erioconopa* 21  
*Eriopogon* 184, 185, 186  
*Erioptera* 21  
*Eriothrix* 350, 362  
*Eristalinus* 237, 238  
*Eristalis* 237, 238, 242, 288  
*Estheria* 349, 362  
*Etsuhua* 149  
*Euaresta* 265  
*Eudactylocladius* 90  
*Eudorylas* 234  
*Euestelia* 271  
*Eukieferiella* 85  
*Euleia* 268, 269  
*Eumerus* 239, 240, 241  
*Euorthocladius* 91  
*Eupeodes* 250, 251, 252  
*Euphyllidorea* 24  
*Euptilostena* 22  
*Eurina* 289  
*Eusimulium* 121, 122, 123, 124, 125  
*Euthycera* 276  
*Eutolmus* 179, 180  
*Eutropha* 287, 289  
*Exechia* 153  
*Exechiopsis* 153  
*Exhyalanthrax* 205  
*Exoprosopa* 203, 204  
*Exorista* 354, 363  
*Fallenia* 177  
*Fannia* 326, 327  
*Feltiella* 149  
*Ferdinandea* 246  
*Filiolus* 179  
*Fucellia* 324  
*Gaedia* 355  
*Galactopogon* 185  
*Gasterophilus* 339  
*Geomyza* 285  
*Gephyraululus* 149  
*Germaria* 361, 364  
*Geron* 191, 192, 207  
*Gitona* 309  
*Glabellula* 210  
*Glenanthe* 316  
*Glyphotriclis* 183  
*Glyptotendipes* 103  
*Gonia* 355, 363  
*Goniurellia* 265  
*Gonomyia* 20, 21, 22  
*Graphogaster* 359, 364  
*Graphomya* 334  
*Grassomyia* 37  
*Greniera* 120  
*Gymnochaeta* 359  
*Gymnochiromyia* 298  
*Gymnoclasiopa* 315  
*Gymnodia* 335  
*Gymnomus* 298  
*Gymnophryxe* 353  
*Gymnopternus* 220  
*Gymnosoma* 357  
*Habropogon* 185, 186  
*Haematobia* 334  
*Haematopota* 170, 171  
*Halmopota* 312  
*Halocladius* 88  
*Haloscatella* 313  
*Hapleginella* 292  
*Harnischia* 103  
*Hebecnema* 335  
*Hecamede* 316  
*Hecamedoides* 315  
*Helcomyza* 275  
*Heleniella* 88  
*Helicophagella* 346, 348  
*Helina* 335, 336

- Helius* 27  
*Helodon* 118  
*Helophilus* 239  
*Hemerodromia* 216, 217  
*Hemipenthes* 205  
*Heptatoma* 171  
*Hercostomus* 220, 221  
*Herina* 269  
*Heringia* 247  
*Heteralonia* 204  
*Heteronychia* 346, 347, 348  
*Heteropogon* 184, 185, 186  
*Heterotrissocladius* 88  
*Heterotropus* 192  
*Hexatoma* 24  
*Hilara* 218  
*Hippobosca* 320  
*Hirtodrosophila* 308  
*Holoclera* 218  
*Holoconops* 70  
*Holopogon* 184, 186  
*Holotanypus* 75, 76  
*Homalometopus* 316  
*Homolonia* 204  
*Homoneura* 272, 273  
*Hoplolabis* 22  
*Hoplosathe* 213  
*Houardiella* 149  
*Hyadina* 319  
*Hybomitra* 172  
*Hydrellia* 317, 318  
*Hydrobaenus* 88  
*Hydrodromia* 215  
*Hydromya* 276  
*Hydrophorus* 222, 223  
*Hydrosmittia* 88  
*Hydrotaea* 327, 328  
*Hylemya* 324  
*Hypenidium* 263  
*Hyperaea* 360  
*Hypoderma* 339  
*Hypovoria* 350  
*Icosta* 320  
*Icteromyza* 281  
*Idiocera* 22  
*Ighboulomyia* 235  
*Ilione* 277  
*Ilisia* 22  
*Irmakia* 101  
*Ischiodon* 251  
*Ischiolepta* 305  
*Isocladius* 84  
*Istocheta* 351  
*Iteomyia* 149  
*Jaapiella* 149  
*Keroplatus* 151  
*Kiefferulus* 103  
*Kimosina* 303  
*Kirbya* 350, 362  
*Kloosia* 103  
*Kowarzia* 216  
*Krenosmittia* 88, 89  
*Kritempis* 217  
*Lagaroceras* 289  
*Lamprolonchaea* 259  
*Lampromyia* 174, 175  
*Lamproscatella* 313  
*Laphria* 183  
*Lapposyrphus* 252  
*Larrousius* 35, 36  
*Larsia* 72  
*Lasiochaeta* 292  
*Lasiopa* 162  
*Lasioptera* 149  
*Lasiosina* 289  
*Lauterborniella* 104  
*Legnotomyia* 196, 207  
*Leia* 156  
*Leopoldius* 255  
*Leptempis* 217  
*Leptocera* 301, 302  
*Leptoconops* 70  
*Leptogaster* 184  
*Leptometopa* 295  
*Leptomydas* 209  
*Leptosciarella* 160  
*Lestodiplosis* 149  
*Lestremia* 146  
*Leucophenga* 309  
*Leucophora* 324  
*Leucopis* 271, 272  
*Leucostoma* 358, 363  
*Leylaiya* 210  
*Liancalus* 223  
*Limnellia* 313  
*Limnophora* 330, 335  
*Limnophyes* 89  
*Limonia* 26, 27  
*Limosina* 301, 302  
*Lindneromyia* 233  
*Linnaemya* 359, 364  
*Liopygia* 347, 349  
*Liosarcophaga* 347  
*Lipoleucopis* 272  
*Liponeura* 144  
*Lipoptena* 321  
*Liriomyza* 282  
*Lispe* 330, 331, 332  
*Lispocephala* 329, 330  
*Lissoglossa* 362  
*Lithotanytarsus* 111  
*Loewia* 359  
*Logima* 40  
*Lomachantha* 351  
*Lomatia* 200, 201  
*Lonchaea* 259  
*Lonchoptera* 233, 234  
*Lordiphosa* 308  
*Lotobia* 305  
*Lotophila* 301  
*Lucilia* 338  
*Ludicia* 28  
*Lumpetia* 237  
*Lunatipula* 31, 32, 33  
*Lyciella* 273  
*Lycoria* 161  
*Lycoriella* 160  
*Machaerium* 223  
*Machimus* 179, 180  
*Macquartia* 360  
*Macrocera* 152  
*Macronychia* 344, 348  
*Macropelopia* 71  
*Madiza* 296  
*Maillotia* 56  
*Mallota* 239  
*Mayetiola* 150  
*Medetera* 219, 224  
*Megaselia* 232  
*Meiosimyza* 273  
*Melanagromyza* 280

- Melanochthiphila* 271  
*Melanogaster* 239  
*Melanolimonia* 26  
*Melanophora* 342  
*Melanosoma* 256  
*Melanostoma* 247, 248  
*Melieria* 269  
*Melinda* 338  
*Meliscaeva* 252  
*Melophagus* 321  
*Meoneura* 287  
*Merleus* 197  
*Merodon* 241, 242, 243, 244  
*Meromyza* 287, 289, 290  
*Mesoclis* 204  
*Mesopsectrocladius* 95  
*Mesorthocladius* 91  
*Metacnephia* 120, 122  
*Metopia* 344  
*Metopostigma* 290  
*Metriocnemus* 89, 90  
*Micomitra* 204  
*Microchironomus* 104  
*Micromorphus* 225, 226  
*Micropeza* 258  
*Microphorella* 225  
*Microphthalma* 360  
*Micropsectra* 111, 112  
*Microsania* 233  
*Microtendipes* 104, 105  
*Micrusia* 189, 190  
*Milesia* 244  
*Milichia* 296  
*Milichiella* 296  
*Miltogramma* 344  
*Minettia* 273, 274  
*Minilimosina* 302  
*Mintho* 360  
*Minthodes* 360, 364  
*Mochlonyx* 43  
*Molophilus* 22, 23  
*Monardia* 146  
*Monoculicoides* 64  
*Morellia* 332  
*Mormia* 38  
*Mosillus* 315  
*Musca* 332, 333, 345  
*Muscidideicus* 220  
*Muscina* 328  
*Myathropa* 239  
*Mycetaulus* 259  
*Mycetophila* 154, 155  
*Mycomya* 157  
*Mycophaga* 325  
*Myolepta* 236  
*Myopa* 254, 256, 257  
*Myopites* 262  
*Myorhina* 347, 348  
*Myospila* 335  
*Mythenteles* 210  
*Nanocladius* 90  
*Nanoplusia* 350  
*Napomyza* 282  
*Nemestrinus* 176, 177  
*Nemopoda* 278  
*Nemorilla* 356  
*Nemotelus* 163  
*Neoascia* 236  
*Neoculex* 57  
*Neoepitriptus* 180  
*Neoleria* 298, 300  
*Neolimnomyia* 24  
*Neomochtherus* 180  
*Neomyia* 333, 334  
*Neorhynchocephalus* 177  
*Neoscatella* 313  
*Neotherevella* 213  
*Nephrotoma* 28, 29, 30  
*Neurigona* 225  
*Nevermannia* 124, 125, 126, 127, 128, 129, 130  
*Nilea* 353  
*Nilotanypus* 72  
*Norellia* 337  
*Norrbonia* 301  
*Nostima* 319  
*Notiphila* 318  
*Novakia* 156  
*Nubensia* 105  
*Nycteribia* 321  
*Nyctia* 345  
*Obuchovia* 139, 140  
*Ochlerotatus* 50, 51  
*Ochthera* 316  
*Ocydromia* 229  
*Odinia* 285  
*Odontomesa* 79  
*Odontomyia* 165  
*Oecacta* 64, 65, 66  
*Oedaspis* 261  
*Oestranthrax* 204  
*Oestrus* 339  
*Ogcodes* 175  
*Oligolimnia* 277  
*Oligotrophus* 150  
*Omphrale* 211, 212  
*Opacifrons* 302  
*Opalimosina* 302  
*Ophiomyia* 280  
*Oplisa* 342  
*Opomyza* 285  
*Opsebius* 176  
*Orchisia* 330  
*Ornithoica* 320  
*Ornithomyia* 320  
*Ornithophila* 320  
*Oropezella* 229  
*Orseolia* 150  
*Orthoceratium* 223  
*Orthocladius* 90, 91, 92, 93  
*Orthonevra* 236  
*Orthopodomyia* 59  
*Ortochile* 221  
*Oscinella* 292, 293  
*Oscinimorpha* 293  
*Oscinisoma* 287, 292, 293  
*Otites* 269  
*Oxyaciura* 263  
*Oxycera* 164  
*Pachyanthrax* 204  
*Pachycerina* 274  
*Pachygaster* 163, 164  
*Pachymeria* 217  
*Pachypericoma* 39  
*Pales* 29, 30, 355  
*Palloptera* 259  
*Palpomyia* 70  
*Pandelleana* 348  
*Pangonius* 168, 169  
*Panimerus* 38  
*Panzeria* 359, 364  
*Paraboreochlus* 70  
*Parachironomus* 105  
*Paracladopelma* 105, 106

- Paracoenia* 312  
*Paracricotopus* 93  
*Paradicranota* 28  
*Parageron* 188, 189  
*Paragus* 248, 249  
*Parakiefferiella* 93  
*Paralauterborniella* 106  
*Paralimosina* 302  
*Paramerina* 72, 73  
*Parametriocnemus* 93, 94  
*Paramormia* 38  
*Paranapaea* 312  
*Paraphaenocladus* 94  
*Paraphlebotomus* 36  
*Parasarcophaga* 347, 348  
*Parascaptomyza* 309  
*Parascatopse* 41  
*Paratanytarsus* 112, 113  
*Paratendipes* 106  
*Parathalassius* 225  
*Parathyroglossa* 315  
*Paratrachocladus* 84, 85  
*Paratrissocladus* 94  
*Paregle* 324  
*Parhelophilus* 239  
*Parilisia* 22  
*Parochthiphila* 271  
*Parorthocladus* 94  
*Parrotomyia* 37  
*Parydra* 311, 312  
*Pashtshenkoa* 180  
*Paykullia* 342  
*Pegomya* 325, 326  
*Pegoplata* 326  
*Peleteria* 361, 364  
*Pelina* 319  
*Penicillidia* 322  
*Pentaneurella* 73  
*Pentapedilum* 106, 107  
*Peplominettia* 274  
*Perasis* 183  
*Peribaea* 361  
*Pericoma* 38, 39  
*Periscepsia* 350  
*Perissocerus* 209  
*Petrorossia* 207  
*Phaenopsectra* 106  
*Phania* 356, 363  
*Phaonia* 336, 337  
*Phasia* 357, 358  
*Pherbellia* 275, 276  
*Pherbina* 277  
*Phileris* 180  
*Philolutra* 216  
*Philosepedon* 40  
*Philotelma* 313  
*Philygria* 319  
*Phlebosotera* 284  
*Phlebotmus* 37  
*Phlebotomus* 35, 36, 37  
*Phorbia* 325  
*Phortica* 309  
*Phronia* 155  
*Phryxe* 353  
*Phthiria* 191  
*Phthiridium* 322  
*Phthitia* 303  
*Phycus* 212  
*Phyllodiplosis* 150  
*Phyllomyza* 296  
*Physegastrella* 176  
*Physiphora* 270  
*Physocephala* 254, 255, 256  
*Phyto* 343  
*Phytoliriomyza* 282, 283  
*Phytomyptera* 359  
*Phytomyza* 280, 281, 282, 283  
*Piophila* 259  
*Pipizella* 247  
*Pipunculus* 234  
*Platycephala* 290  
*Platycheirus* 248  
*Platymya* 355  
*Platynochaetus* 244  
*Platyopsis* 221  
*Platypalpus* 230, 231  
*Platystoma* 260  
*Plesina* 361  
*Plesiocera* 204  
*Pneumia* 39, 40  
*Poecilobothrus* 221  
*Poecilosomella* 303  
*Poemyza* 281  
*Pogonosoma* 183  
*Polietes* 334  
*Pollenia* 340, 341  
*Polyblepharis* 217  
*Polyodaspis* 292, 294  
*Polypedilum* 105, 106, 107, 108, 109  
*Polytrichophora* 315  
*Pontoculicoides* 65, 66  
*Potthastia* 78  
*Powellii* 263  
*Prochyliza* 260  
*Procladius* 75, 76  
*Prodiamesa* 79  
*Prokempia* 70  
*Prorachthes* 197  
*Prosimulium* 118, 119, 120  
*Prosopomyia* 272  
*Protanypus* 78  
*Protoclythia* 233  
*Protogonomyia* 20, 21  
*Protomiltogramma* 344  
*Psacadina* 277  
*Psectrocladius* 95  
*Psectrosciara* 41, 42  
*Psectrosema* 150  
*Psectrotanypus* 71  
*Pselaphia* 294  
*Pseudexechia* 153  
*Pseudocollinella* 303  
*Pseudoculicoides* 70  
*Pseudodiamesa* 78  
*Pseudoficalbia* 60  
*Pseudogonia* 356  
*Pseudolimnophila* 25  
*Pseudolycoriella* 161  
*Pseudolynchia* 320  
*Pseudomintho* 361  
*Pseudonapomyza* 283  
*Pseudopachychaeta* 290  
*Pseudophysocephala* 256  
*Pseudorthocladus* 96  
*Pseudosmittia* 88, 95, 96  
*Psilocricotopus* 96, 97  
*Psilopa* 310, 311  
*Psilota* 247  
*Psilotanypus* 76  
*Psyca* 40  
*Psychoda* 40  
*Psychodocha* 40  
*Ptesiomyia* 353



- Ptilomyia* 317  
*Ptychoptera* 43  
*Pullimosina* 303  
*Puncticorpus* 303  
*Pycnomalla* 162  
*Pycnopogon* 186  
*Pyrellia* 334  
*Quateiella* 42  
*Rachispoda* 303, 304  
*Ravinia* 348  
*Raymondia* 322  
*Reichertella* 41, 42  
*Remmia* 66  
*Resseliella* 150, 151  
*Rhamphomyia* 218  
*Rhaphium* 219, 226  
*Rhegmoclemina* 42  
*Rheocricotopus* 96, 97  
*Rheomus* 109  
*Rheopelopia* 73  
*Rheotanytarsus* 113, 114  
*Rhexoza* 42  
*Rhinia* 341  
*Rhinoestrus* 339  
*Rhodesiella* 294  
*Rhopalia* 209  
*Rhopalomyia* 151  
*Rhyncomya* 341, 342  
*Riponnensia* 236  
*Rivellia* 260  
*Robinaldia* 351  
*Roederella* 216  
*Rubzovia* 130, 131  
*Rusticoidus* 51  
*Rymosia* 153  
*Sabroskyina* 294  
*Salentia* 212  
*Saltella* 278  
*Saltrichocera* 35  
*Sapromyza* 273, 274  
*Sapromyzosoma* 274  
*Sarcophaga* 346, 347, 348, 349  
*Sarcophila* 345  
*Saropogon* 181, 182  
*Satanas* 180  
*Satyramoeba* 202  
*Savtshenkia* 33  
*Scaeva* 252, 253  
*Scaptodrosophila* 309  
*Scaptomyza* 308, 309  
*Scatella* 313, 314  
*Scathophaga* 337  
*Scatophila* 314  
*Scatopsciara* 161  
*Scatopse* 41, 42  
*Scenopinus* 211, 212  
*Sceptonia* 155  
*Schistostoma* 225  
*Schizomyia* 151  
*Schoenomyza* 330  
*Schoenophilus* 224  
*Schwenckfeldina* 161  
*Sciapus* 226, 227  
*Sciara* 161  
*Sciophila* 157  
*Scytomedes* 183  
*Semiramis* 198  
*Senometopia* 353  
*Senotainia* 344  
*Sensiculicoides* 66, 67, 68  
*Sepedon* 277  
*Sepsis* 278, 279  
*Sergentomyia* 37  
*Servaisia* 346  
*Setacera* 313  
*Sicus* 257  
*Silba* 259  
*Silvaticulicoides* 69  
*Silvius* 167, 168  
*Simulium* 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142  
*Sintonius* 37  
*Siphona* 361  
*Siphonellopsis* 295  
*Siphunculina* 294  
*Sisyrnodytes* 186, 187  
*Smittia* 97  
*Sophophora* 307, 308  
*Spathulina* 265  
*Spelobia* 304  
*Sphaeniscus* 263  
*Sphaerocera* 305  
*Sphaerophoria* 253  
*Sphenella* 265  
*Spheniscomyia* 263  
*Sphiximorpha* 237  
*Spilomyia* 244  
*Spinilimosina* 304  
*Spogostylum* 202, 203  
*Stefaniella* 151  
*Stefaniola* 151  
*Stegomyia* 51, 52  
*Stempellina* 115  
*Stempellinella* 115  
*Stenepteryx* 320  
*Stenochironomus* 109  
*Stenomphrale* 212  
*Stenopogon* 181, 186, 187  
*Stevenia* 343  
*Stichopogon* 187, 188  
*Stictochironomus* 109, 110  
*Stigmatomeria* 153  
*Stilpon* 230  
*Stiphrolamyra* 183  
*Stomina* 350  
*Stomorhina* 342  
*Stomoxys* 334  
*Stratiomys* 165  
*Sturmia* 352, 356  
*Subhylemyia* 325  
*Suillia* 299, 300  
*Svarciella* 302  
*Swammerdamella* 42  
*Sybistroma* 219, 221  
*Syllegomydas* 209, 210  
*Sylvicola* 144  
*Symplecta* 23  
*Symposiocladius* 93  
*Sympothastia* 78  
*Sympycnus* 227  
*Synapha* 156  
*Syndiamesa* 78  
*Synorthocladius* 97  
*Syntormon* 227, 228  
*Syritta* 244, 245  
*Syrphus* 243, 250, 251, 252, 254  
*Systoechus* 197  
*Tabanus* 169, 171, 172, 173,

- 174  
*Tachina* 361, 362, 364  
*Tachydromia* 231, 232  
*Tachytrechus* 219, 221, 222  
*Tanypus* 76  
*Tanytarsus* 110, 113, 115, 116, 117  
*Tarnania* 154  
*Taxigramma* 344  
*Telmatopelopia* 74  
*Telomerina* 304  
*Telopelopia* 74  
*Temnostoma* 245  
*Tephritis* 263, 265, 266, 268  
*Tephritomyia* 266  
*Tephrochlamys* 298, 300  
*Terellia* 267, 268  
*Tetanops* 270  
*Tethina* 286, 287  
*Tetragoneura* 156  
*Teuchophorus* 228  
*Thaumalea* 143  
*Thaumatomyia* 290  
*Thecodiplosis* 151  
*Thecophora* 254, 257  
*Thelaira* 350  
*Themira* 279  
*Thereva* 213, 214  
*Thevenetimyia* 198, 208  
*Thienemannia* 97, 98  
*Thienemanniella* 98  
*Thienemannimyia* 74  
*Thinophilus* 223, 224  
*Thoracochaeta* 304  
*Thricops* 328  
*Thrypticus* 225  
*Thyridanthrax* 205, 206, 208  
*Thyrsoenema* 348  
*Tinearia* 40  
*Tipula* 30, 31, 32, 33, 34  
*Tomosvaryella* 235  
*Tonnoiriella* 38  
*Toxophora* 192  
*Trachyopella* 304  
*Trachysiphonella* 294  
*Trichardis* 183  
*Trichocera* 34, 35  
*Trichodagmia* 139, 140  
*Trichonta* 155  
*Trichopoda* 358  
*Trichopsidea* 177  
*Tricimba* 294, 295  
*Tricogena* 343  
*Tricyphona* 28  
*Triglyphus* 247  
*Triplasius* 197  
*Tripodura* 108  
*Trissocladius* 98  
*Trissopelopia* 75  
*Trixoscelis* 299, 300  
*Trupanea* 267  
*Trypetoptera* 277  
*Tryphera* 353  
*Turka* 181  
*Turkmeniella* 203  
*Tvetenia* 98, 99  
*Uclesia* 351  
*Ulidia* 270  
*Uranotaenia* 60  
*Uresipedilum* 108, 109  
*Urophora* 262  
*Urosimulium* 120  
*Usia* 188, 189, 190  
*Vanoyia* 164  
*Veribubo* 206, 209  
*Vermileo* 175  
*Vestiplex* 34  
*Villa* 206, 207, 211, 331, 333  
*Villeneuveiella* 342  
*Virgatanytarsus* 117, 118  
*Volucella* 190, 246, 247  
*Voria* 351  
*Wagneria* 351  
*Weberia* 358, 363  
*Wiedemannia* 216  
*Wilhelmia* 141, 142  
*Wirthomyia* 69  
*Wohlfahrtia* 345  
*Xanthandrus* 248  
*Xanthempis* 217  
*Xanthocanace* 286  
*Xanthochlorus* 228  
*Xanthogramma* 254  
*Xenochironomus* 110  
*Xenopygina* 161  
*Xenopelopia* 75  
*Xylopriona* 146  
*Xylota* 245  
*Xysta* 359, 363  
*Yamatotipula* 34  
*Zaira* 351  
*Zalutschia* 99  
*Zaprionus* 309  
*Zavrelia* 118  
*Zavreliomyia* 75  
*Zephyrectes* 195  
*Zeuxia* 349  
*Zodion* 257  
*Zophomyia* 360  
*Zygodiola* 204  
*Zygomyia* 155

## Index by species

- abbreviata* 200  
*abbreviatum* 358  
*aberrans* 241, 349  
*aberrata* 77  
*abiens* 279  
*abscondita* 21  
*acarisuga* 149  
*acifer* 108  
*acrosticalis* 303  
*actites* 286  
*aculeata* 256  
*acuticornis* 80, 98, 255, 283  
*adaucta* 71  
*adipata* 259  
*adjuncta* 24  
*adjunctum* 24  
*adumbratus* 226  
*adusta* 306, 308

- aeacus* 203  
*aegypti* 51  
*aegyptiaca* 263  
*aegyptiacum* 198, 208  
*aegyptiacus* 176, 254  
*aegyptica* 347  
*aegyptium* 108  
*aegyptius* 251  
*aenea* 190, 237, 241, 319  
*aenescens* 229, 327  
*aeneus* 229, 237, 241  
*aenigmatica* 273  
*aequalipes* 310  
*aerivaga* 230  
*aerivagus* 185  
*aestivalis* 61  
*aestivus* 79  
*aethiops* 201  
*afer* 205  
*aff. brevicaudis* 234  
*aff. equitans* 296  
*aff. halterata* 234  
*affinis* 25, 148, 153  
*aff. negrobovi* 227  
*aff. roghii* 224  
*afriberia* 34  
*africa* 346  
*africana* 37, 151, 305, 343  
*africanus* 219  
*agathensis* 68  
*aglota* 211  
*agraria* 160  
*agrayloides* 104  
*agrestis* 171  
*agricola* 171  
*aharonii* 294  
*alaris* 276  
*alatus* 109  
*albaminis* 193  
*albatus* 196  
*albellus* 187  
*albibarbus* 219  
*albicans* 316  
*albiceps* 338  
*albicincta* 211, 325  
*albicinctus* 211  
*albicorne* 107  
*albifacies* 207  
*albiforceps* 82  
*albifrons* 248, 317, 344, 353  
*albimana* 43  
*albimanus* 106, 248  
*albipennis* 40, 95, 102, 279, 315  
*albipes* 225  
*albipilosa* 287, 289  
*albipunctata* 38  
*albiseta* 277  
*albisetosus* 178  
*albisquama* 356, 363  
*albisutus* 117  
*albofasciata* 332  
*albofasciatus* 101, 187  
*albogilva* 191  
*alboguttata* 286  
*albohalterata* 215  
*albolineata* 199, 208  
*albolineatus* 89  
*albomaculata* 252, 296  
*albomaculatus* 252  
*albopictus* 52  
*albopilosa* 229  
*alboscuteclatus* 20  
*albosegmentatus* 204  
*albosetulosa* 286  
*albostratus* 250  
*albula* 207  
*alceae* 270  
*alea* 154  
*alexandri* 36  
*alexandrina* 199  
*alexandrinus* 170  
*algecirasensis* 218  
*algerica* 262  
*algeriensis* 44  
*algira* 164, 170, 177, 204, 215, 262, 276  
*algerica* 209, 214  
*algericus* 209  
*algerum* 193  
*algius* 167, 169  
*alluaudi* 28, 29, 168, 230  
*almeriensis* 218  
*almi* 115  
*alolena* 165  
*alphonsi* 205  
*alpicola* 97, 157  
*alpinus* 168  
*alternata* 40  
*alticola* 144, 216  
*ambigua* 156, 279, 307  
*ambiguus* 248  
*ambustus* 193  
*amentaria* 340  
*amica* 346  
*amicorum* 166  
*amoena* 267, 284  
*amoenus* 239  
*ampullifera* 22  
*analisis* 30, 193  
*anancitis* 212  
*ancyla* 85  
*andalusiaca* 23, 111, 289, 308  
*andalusiacus* 219  
*andalusica* 159  
*angulata* 165, 303  
*angustata* 351  
*angusteoculatus* 206  
*angusticornis* 240  
*angustifrons* 190, 232, 333  
*angustigenis* 317  
*angustipes* 122  
*angustitarse* 124  
*annularius* 99  
*annulata* 35, 58, 213, 326  
*annulator* 82  
*annulatus* 230  
*annulimana* 232  
*annulipes* 271, 318  
*anomala* 157  
*anomalicerus* 230  
*anomalitarsis* 230  
*anomalus* 76  
*anormalipennis* 30  
*ansatus* 117  
*antachates* 343  
*antennata* 37, 329, 355  
*anthracias* 292  
*anthracinus* 169  
*anthrax* 201, 328

- antipedalis* 145  
*antiqua* 323  
*anubis* 165  
*aonidiellae* 149  
*apennina* 350  
*apicalis* 179, 217, 270, 274, 285, 331, 341, 361  
*apicatus* 262  
*apiformis* 186  
*apollo* 220  
*appendiculata* 29  
*appendiculatum* 219, 226  
*appendiculatus* 185, 221  
*apposita* 111  
*approximata* 299  
*approximatum* 296  
*approximatus* 230  
*aprica* 354, 363  
*aprilina* 281  
*aprilinus sensu* 99  
*aquila* 312  
*arbustorum* 238  
*arcuata* 293  
*arcuatus* 252  
*arduennensis* 117  
*arenacea* 204  
*aretalogus* 181  
*argentifrons* 198  
*argentina* 218  
*argyria* 219  
*argyrocephala* 199, 344  
*argyrocephalus* 199  
*argyrogenis* 317  
*argyrostoma* 347, 349  
*arias* 35, 142  
*aridella* 270  
*aristata* 111  
*aristella* 259  
*armata* 317  
*armipes* 327, 328  
*arpadi* 172  
*arrasus* 241  
*arrogans* 232  
*arsona* 156  
*arundineti* 107  
*asetosa* 332  
*ashei* 91  
*asiliformis* 166  
*asniensis* 231  
*asparagi* 148  
*assimilis* 220, 328, 330  
*astigma* 29  
*ater* 169, 176  
*aterrima* 97, 162, 168, 342, 355  
*athletica* 287, 289  
*atlantea* 235  
*atlantica* 199  
*atlanticus* 192  
*atlantidis* 281  
*atlas* 33, 132, 317  
*atlasi* 235, 248  
*atlasicum* 136  
*atlasicus* 298  
*atomaria* 161  
*atomarius* 160  
*atra* 38, 163, 213, 247, 257, 283, 301, 329, 355  
*atrata* 190  
*atratura* 283  
*atratus* 181  
*atriceps* 163  
*atricornis* 282  
*atridorsum* 110  
*atrior* 343  
*atripes* 96, 349  
*atrocincta* 72  
*atrofasciata* 111  
*atrogonius* 255  
*atropivora* 352  
*atrorubens* 182  
*attenuata* 329  
*attica* 61  
*audacula* 324  
*audcenti* 193  
*augur* 264  
*aulicus* 227  
*aurata* 189  
*aurea* 199, 259  
*aureoscutellata* 213  
*aureus* 166, 241  
*auricollis* 252  
*auricoma* 139  
*aurifer* 241  
*auriflua* 162  
*aurifrons* 182, 344  
*auripila* 243  
*auripilus* 181, 196, 243  
*australis* 239  
*autumnalis* 172, 332  
*avenae* 150  
*avicularia* 320  
*avida* 242  
*avidus* 242  
*azerbajdzhanicus* 64  
*azurea* 216  
*baccha* 203  
*bacescui* 185  
*badooshensis* 66  
*baezi* 304  
*bagdadensis* 204  
*bahirae* 192  
*balanina* 346  
*balfouri* 60  
*baliogastra* 299  
*balteata* 250  
*balteatus* 250  
*balticus* 90, 222  
*barbara* 361, 364  
*barbarensis* 34  
*barbarica* 39, 164, 215  
*barbaricum* 141  
*barbarus* 172, 178, 239  
*barbata* 169  
*barbatipes* 75, 95  
*barbatula* 216  
*basalis* 235, 240  
*baueri* 95  
*bausei* 115  
*bavarica* 98  
*beaucournui* 153  
*beckeri* 82, 156, 178, 216, 280, 347  
*bedmari* 85  
*belgiana* 348  
*bella* 345, 356  
*bellicosum* 316  
*bellus* 195, 207, 225  
*belzebul* 200  
*bengalensis* 331  
*benoisti* 162, 170, 351

- bequaerti* 242, 362  
*berber* 250  
*berbera* 197  
*berberi* 75  
*berberum* 137  
*bergeroti* 36  
*berkanea* 74  
*berlandi* 50, 209, 210, 331  
*berlesiana* 149  
*bernardi* 143  
*bernensis* 99  
*berthelemyi* 96  
*bertrami* 77  
*betae* 325  
*bethiana* 216  
*bezziana* 341  
*bezzii* 132  
*biarcuata* 155  
*biarcuatus* 243  
*biarticulata* 322  
*biarticulatum* 322  
*bicaudata* 279  
*bicincta* 153  
*bicinctum* 249  
*bicinctus* 82  
*bicolor* 24, 190, 243, 248, 256, 299, 300, 325, 340, 356  
*bicrenatum* 108  
*bicuspidata* 159  
*bidentata* 111  
*bifarius* 173  
*bifida* 79, 283  
*biflexuosa* 278  
*bifrons* 301  
*bifurcata* 233  
*bigoti* 170  
*biguttata* 357, 363  
*bilobata* 151  
*bimaculata* 27, 156, 172, 291, 355  
*bimaculatus* 249  
*binotata* 201, 213  
*binotatus* 201  
*bipartita* 263  
*biplex* 185  
*bipunctata* 213, 216, 330  
*biseriata* 273  
*biseta* 219, 333  
*bisetus* 223  
*biskrae* 310  
*bispinosus* 145  
*bispinulosa* 159  
*bistrigata* 299  
*bituberculatus* 112  
*bivittata* 31, 312  
*blanci* 120, 121  
*blandula* 39  
*blasigii* 225  
*boergei* 230  
*boghariensis* 197  
*boletina* 285  
*bomboides* 183  
*bombylans* 245  
*boreoalpina* 88  
*boreoalpinus* 93  
*bouazzai* 236  
*bouillonae* 201  
*bovinus* 173  
*bovis* 339  
*brachialis* 329  
*brachyntera* 151  
*brachystoma* 304  
*branickii* 78  
*brassicae* 148, 324  
*brassicaria* 356  
*brehmi* 85, 95  
*breviantennata* 33  
*brevicalcar* 85  
*brevicaudis* 234  
*brevicorne* 226  
*brevicornis* 42, 168, 214, 236, 311, 360  
*brevicostata* 304  
*brevidens* 126  
*brevior* 303  
*brevipalpis* 76, 84, 98  
*brevipennis* 180  
*brevipetiolatus* 75  
*brevis* 115, 186  
*breviusculum* 193  
*breviventris* 313  
*brisiaca* 281  
*britannica* 154  
*britteni* 104  
*bromius* 173  
*brumpti* 52  
*brundini* 115  
*brunnea* 206  
*brunnescens* 172, 204  
*brunnipennis* 245  
*brunnipes* 179  
*bryoniae* 149, 282  
*buboniae* 151  
*buccata* 256  
*bucheti* 164  
*bueni* 210  
*bulbigera* 157  
*bullans* 265  
*busckii* 306  
*buxtoni* 59  
*buzzatii* 307  
*caballeroi* 240  
*cabanerensis* 242  
*cadaverina* 334  
*caducus* 82  
*caecutiens* 167  
*caenosa* 302  
*caesarion* 333  
*caesia* 331  
*caesius* 298  
*caesula* 159  
*caffrarius* 109  
*calcaratus* 242  
*calceata* 314  
*calceatus* 231  
*calcitrans* 334  
*caliendrata* 350  
*caliginosum* 226  
*calipterus* 100  
*callopi* 341  
*callosicosta* 313  
*calloti* 69  
*caloptera* 26  
*calvescens* 98  
*camelina* 320  
*cameraria* 308  
*acutipennis* 305, 319  
*camptolabis* 105  
*camptophleps* 89  
*canariensis* 220, 320  
*candelisequa* 28  
*candicans* 331  
*canescens* 193, 299

- canicularis* 326  
*cantolraensis* 273  
*capensis* 110, 320, 328  
*capitata* 261, 281, 355  
*capparis* 146  
*capreoli* 321  
*capucina* 203  
*capucinus* 80  
*carbonaria* 161  
*cariciphila* 292  
*carlestolrai* 234  
*carmela* 342  
*carmen* 265  
*carnea* 74  
*carophila* 149  
*carpocoridis* 357  
*carriana* 81  
*carthaginiensis* 353  
*carthusiense* 127  
*casei* 259  
*caspius* 50  
*castaneus* 198  
*castellana* 359, 364  
*cataneii* 66  
*caudata* 353  
*caudatula* 60  
*cauliginellus* 103  
*cavernicola* 157  
*caviceps* 314  
*ceballosi* 206  
*celtica* 81  
*cenisia* 165  
*ceratophylli* 113  
*ceriaeformis* 255  
*cervinus* 181  
*cf. bispinosus* 145  
*cf. fulvofasciata* 97  
*cf. furcatus* 79  
*chabaudii* 36  
*chadlii* 35  
*chalconota* 360  
*chalybeatus* subsp. *chalybeatus* 96  
*chalybeus* 242  
*chetifer* 220  
*chillcotti* 231  
*chinyensis* 115  
*chloris* 104  
*chnumi* 316  
*chopardi* 217  
*chorea* 25  
*choreus* 75  
*choumara* 74  
*choumarae* 173  
*christophersi* 37  
*chrysanthemi* 213  
*chrysonotus* 231  
*chrysorrhoea* 255  
*cicerina* 282  
*cichorii* 282  
*ciliata* 303, 313  
*cilicrura* 324  
*cilifemorata* 235  
*ciliforceps* 279  
*cilipeda* 355  
*cilitarsis* 331  
*cimbiciformis* 239  
*cimiciforme* 310  
*cinninata* 159  
*cincta* 20, 214, 294, 336  
*cinctella* 252  
*cinctellum* 290  
*cinctellus* 252  
*cinctipes* 289  
*cinctus* 37, 144, 210, 248  
*cinerascens* 20, 155, 157, 193, 257  
*cinerea* 40, 200, 222, 318, 324, 328, 351  
*cinereicolor* 31  
*cinerella* 275, 323  
*cinereum* 257  
*cinereus* 47, 222  
*cingulata* 72, 206  
*cingulatus* 163, 179  
*circeoides* 203  
*circumdata* 206  
*circumscripatus* 62  
*clara* 310, 335  
*claridgei* 297  
*claripennis* 28, 85, 190, 341  
*clastrieri* 66  
*claussenii* 236  
*clausus* 182  
*clavatum* 357  
*clavicornis* 98  
*claviger* 44  
*clavipes* 41, 145, 242  
*cleomene* 203  
*clunipes* 304  
*clydei* 36  
*clypeata* 86, 284  
*clypeatus maroccanus* 180  
*coadunatus* 249  
*coarctata* 312, 324  
*cocciferae* 150  
*cochleatus* 178  
*codinai* 227, 274  
*coeca* 305  
*coerulescens* 86  
*cogani* 318  
*cognata* 312  
*cognatum* 287, 293  
*collarti* 101  
*collini* 297  
*colluzzii* 65  
*colon* 267  
*columbina* 341  
*coluzzii* 51  
*combinata* 285  
*composita* 310  
*compressa* 360  
*compressus* 198  
*compta* 311  
*comtus* 248  
*concava* 152  
*concininata* 351  
*confinis* 104, 352  
*confluens* 217  
*conformis* 88  
*confusa* 33  
*confusus* 112  
*congesta* 282  
*conglomerata* 147  
*congrua* 262  
*conjuncta* 267  
*connexa* 355  
*connexus* 167  
*conopsoides* 237  
*consobrinus* 219, 221  
*conspicua* 322  
*constans* 241  
*contaminata* 43  
*contempta* 340

- contingens* 97  
*continua* 357  
*contracta* 111, 237  
*convictum* 108  
*conyzae* 283  
*coprina* 304  
*cordatus* 101  
*cordiger* 173  
*coremura* 153  
*cornicina* 333, 334  
*cornicula* 31  
*cornigera* 190  
*cornuta* 287, 291  
*corollae* 250, 251  
*coronata* 81, 93, 271  
*coronatum* 255  
*coronatus* 255  
*corsicana* 361, 364  
*corsicanus* 222  
*corvina* 333  
*coryleti* 277  
*coryli* 263  
*costae* 226  
*costalis* 212  
*costarus* 186  
*costata* 177, 330  
*costatum* 127  
*costatus* 177, 186  
*cothurnata* 182, 326  
*coxata* 302  
*crabroniformis* 178, 244  
*crassicornis* 152, 153, 170, 232  
*crassipalpis* 197, 347  
*crassipennis* 357  
*crassum* 358, 363  
*crassus* 181  
*crataegi* 148  
*acutipennis* 305, 319  
*cretensis* 115  
*cribratus* 179  
*crinita* 158, 216, 263  
*crinitarsis* 227  
*crispa* 189  
*cristatus* 178  
*cristulatus* 228  
*crocea* 210  
*crocotula* 24  
*croci* 203  
*cruciatu* 195  
*cryophilum* 128  
*cryptocrispa* 189  
*crystallinus* 43  
*ctenopterus* 197  
*cubitalis* 67  
*cucularia* 276  
*cucullans* 346  
*culiciformis* 43, 76  
*cultellatum* 109  
*cuprea* 190  
*curticalcar* 72  
*curtilamellata* 103  
*curtistylus* 96, 113  
*curvata* 299  
*curvilinea* 161  
*curvinerve* 269  
*curvinervis* 287, 289  
*curvipalpis* 280  
*curvipennis* 288  
*curvipes* 227, 305  
*cyanea* 86  
*cyanella* 332  
*cyanescens* 341  
*cydoniae* 281  
*cylindrica* 174, 184, 267  
*cylindricornis* 163  
*cylindricus* 181  
*cynipsea* 278  
*cynodontis* 150  
*cypriacus* 262  
*cyrtus* 176  
*cytisi* 147  
*czernyi* 335  
*dadesi* 111  
*dalmatica* 357  
*danconai* 95  
*danielsoni* 163  
*daphnea* 261  
*darimonti* 173  
*dasynotus* 178  
*debruyni* 235  
*decellei* 347  
*deceptoria* 343  
*decipiens* 329  
*decora* 217  
*decrepita* 203  
*deflexa* 154  
*degeeri* 175  
*delicata* 200  
*deligata* 354  
*demandata* 270  
*demnatensis* 230  
*demotica* 359  
*dentatus* 202  
*denticornis* 281  
*denticulatus* 228  
*dentiforceps* 80, 159  
*dentipes* 328  
*denudatus* 186  
*deribae* 104  
*derisor* 66  
*deserta* 159  
*desertica* 341  
*deserticola* 56  
*desertorum* 231  
*despecta* 314  
*destructor* 150  
*detritus* 51  
*devonica* 86  
*diadema* 181, 224  
*diastema* 291  
*dibranchius* 115  
*dichaeta* 313  
*dichromus* 90  
*didyma* 25  
*dieuzedei* 216  
*difficilis* 89  
*diffinis* 104  
*difformis* 236  
*digitata* 244, 301  
*digitulus* 178  
*dignota* 252  
*digramma* 358, 363  
*dilatata* 60, 351  
*dilatatus* 95, 234  
*dilaticornis* 352  
*dilsi* 189  
*dilutipes* 229  
*dimidiatus* 186  
*dimidiocera* 294  
*dioscurea* 265

- diplotaxis* 149  
*discoidea* 193  
*discolor* 165, 194  
*discoloripes* 99  
*discrepans* 343  
*discriminatus* 220  
*disjecta* 277  
*disjuncta* 348  
*dispar* 24, 200, 204, 253, 352  
*disparilis* 230  
*dissecta* 323  
*dissimilis* 112, 324  
*distichus* 231  
*distincta* 206, 213, 241  
*distinctissimus* 113  
*distinctus* 241  
*distinguenda* 172  
*distipilosus* 185  
*dittmari* 87  
*diuturna* 21  
*diversa* 39  
*diversipes* 361  
*dives* 160, 254  
*divisa* 73, 265  
*djanetianus* 255  
*dolycoridis* 357  
*domestica* 333  
*dorieri* 88, 164, 216  
*dorsalis* 153, 233, 256, 276  
*dorsata* 276, 318  
*draperi* 331  
*dreyfussi* 37  
*dromedarina* 320  
*dthali* 48  
*dubius* 72  
*dudai* 232  
*duddingstoni* 66  
*dufouri* 221, 322  
*duinensis* 291  
*duodecimseta* 303  
*duplosetosa* 315  
*durrenbergensis* 317  
*dusmeti* 186, 239  
*dux* 347  
*dzhafarovi* 66  
*dziedzickii* 154  
*ebbae* 71  
*ebenina* 20  
*echinus* 14, 50, 189  
*ecristatus* 110  
*ectinocerella* 169  
*edithae* 217  
*edwardsi* 81, 154  
*efflatouni* 202, 203, 208  
*effusus* 97  
*eggeri* 173  
*egregium* 133  
*ejuncidus* 115  
*elapsus* 178  
*elegans* 205, 236, 243, 255  
*elegantulus* 187  
*eligans* 250  
*elongatula* 290  
*eluta* 263  
*emarginatus* 111  
*eminulus* 115  
*ephippium* 82  
*eploceus* 194  
*eques* 241, 242  
*equestris* 242  
*equina* 300, 320  
*equinum* 141, 142  
*equinum mediterraneum* 141, 142  
*equitans* 296  
*erectiseta* 304  
*eremita* 225  
*eremophila* 188, 335  
*ericaescopariae* 148  
*ericpoli* 272  
*eristaloides* 239  
*ermineus* 180  
*errans* 336  
*erratica* 337  
*erynnis* 201  
*erythrocephala* 338  
*erythrophthalma* 270  
*erythrurum* 257  
*escalerae* 176, 242, 247  
*escheri* 202  
*eumera* 217  
*europaea* 360  
*eurynotus* 89  
*euzonus* 226  
*evanescens* 179, 254  
*evecta* 335  
*exagitans* ssp. 1 94  
*exalbidus* 176  
*exarticulatus* 220  
*excerptus* 94  
*excipiens* 220  
*exoleta* 336  
*exornata* 153  
*exquisita* 39  
*fabiola* 31  
*fabri* 120  
*fagesi* 236  
*faghihi* 69  
*fagineus* 63  
*falcata* 189  
*falcigera* 75  
*fallaciosa* 216  
*fallaciosa* ssp. *litardierei* 216  
*fallax* 37, 233  
*farinae* 314  
*fasciata* 152, 156, 177, 206, 273, 344  
*fasciatus* 176  
*fasciculata* 192  
*fasciculatus* 186  
*fascigera* 74  
*fascipenne* 199  
*fascipennis* 196, 207  
*fascipes* 226  
*fatigans* 159  
*faurei* 120  
*febrilis* 145  
*fedtshenkoi* 294  
*femoralis* 360  
*femorata* 146  
*femoratus* 145, 146, 243  
*femorellum* 291  
*fenestralis* 144, 158, 211  
*fenestrata* 158, 200  
*fenestratus* 205  
*fennicus* 95  
*fera* 361  
*ferox* 346  
*ferruginata* 301  
*ferruginatus* 145



- ferrugineus* 242, 257  
*ferulae* 283  
*festivipennis* 66  
*filia* 346  
*filiforme* 316  
*filiola* 263  
*filiolus* 263  
*filipalpis* 353  
*filipes* 227  
*fimbriatus* 117, 179, 194  
*fissum* 226  
*fittkaui* 87  
*flammeus* 249  
*flava* 308  
*flavella* 298  
*flaveola* 275, 308  
*flavescens* 184, 256, 268, 269, 270  
*flavibarbum* 193  
*flavibasis* 324  
*flavicauda* 305  
*flavicollis* 41, 157  
*flavicornis* 231, 270  
*flavifrons* 79, 207  
*flavigenis* 286  
*flavimana* 161, 278  
*flavipalpis* 223, 271, 273  
*flavipennis* 322  
*flavipes* 27, 106, 146, 167, 194, 224, 245, 312, 339  
*flavipila* 158  
*flavissima* 165  
*flavitaris* 289, 312, 330  
*flaviventris* 70, 244, 273  
*flavogrisea* 324  
*flavoscutellata* 70  
*flexidens* 79  
*floccosa* 328  
*florea* 190, 239  
*florum* 285  
*foeda* 155  
*foliacea* 97  
*fontana* 29  
*fontinalis* 302  
*forcipata* 189, 308  
*formosa* 154, 164, 265  
*formosana* 271  
*formosanus* 115  
*formosus* 176  
*fortis* 179  
*fossarum* 311  
*foveatus* 96  
*fratella* 310  
*freidbergi* 207  
*frequens* 105  
*freyi* 42  
*frigidus* 91  
*fringillina* 320  
*frit* 292  
*frontalis* 261  
*frontata* 235, 288  
*frontella* 271, 280, 291  
*frontosa* 280  
*fucata* 302  
*fuldensis* 87  
*fulgens* 278  
*fuliginisa* 195  
*fuliginosus* 195  
*fulva* 79, 153, 320  
*fulvescens* 194  
*fulvifrons* 289  
*fulvipes* 145, 281  
*fulviventris* 248  
*fulvofasciata* 97  
*fulvus* 171  
*fumigata* 325  
*fumipenis* 187  
*fumipennis* 58, 246, 351  
*fumosa* 312, 335  
*funbris* 168, 214, 307, 340  
*furcata* 233  
*furcatus* 79  
*fusca* 146, 153, 156  
*fuscatus* 144  
*fuscescens* 26  
*fuscicornis* 170, 268  
*fuscimanus* 90, 103  
*fuscipennis* 21, 192, 195, 212, 303  
*fuscipes* 41, 90, 97, 182  
*fuscohalterata* 20  
*fuscolimbata* 282  
*fusconotatus* 102  
*fuscus* 80, 194  
*fusitibia* 218  
*gaedii* 24, 78, 191  
*gagates* 182  
*galactoptera* 314  
*galaptera* 105  
*galii* 352, 363  
*gallicus* 96  
*galloprovinciale* 139  
*gatti* 297  
*gaudi* 138  
*geijskesi* 74  
*gel* 303  
*gelasinus* 89  
*gemina* 40, 160  
*geniculata* 42, 235, 361  
*geniculatus* 50, 243  
*gentilis* 338  
*genurufa* 335  
*germanica* 164  
*germanus* 220  
*germari* 344  
*gestroi* 320  
*ghilianii* 269  
*gibbus* 109, 175  
*gigas* 180  
*gilva* 350, 352  
*gilvipes* 156, 293  
*glabra* 288, 290, 296, 306, 315  
*glabricollis* 96  
*glabricula* 229, 310, 328  
*glabrifrons* 211, 300  
*glauc* 312  
*glaucella* 315  
*glaucellus* 315  
*glaucescens* 226  
*globicauda* 189  
*globiformis* 160  
*glyphinivora* 271  
*gomezmenori* 197  
*gonatistes* 179  
*goniaeformis* 354  
*goritiensis* 25  
*goudoti* 221  
*gougeleti* 181  
*gozmanyi* 274

- gracei* 87  
*gracilipes* 122  
*gracilis* 98, 187, 197  
*gradatus* 197  
*graeca* 214, 291  
*graecum* 263  
*gramineus* 219  
*graminicolor* 106  
*graminum* 309  
*granadica* 39  
*grandicollis* 180  
*grandis* 170, 203, 354  
*grata* 23, 188, 219, 227  
*gratus* 188  
*gregarius* 116  
*grimmii* 112  
*gripekoveni* 103  
*gripha* 156  
*griseicolle* 152  
*griseipennis* 220, 269  
*griseiventris* 245  
*griseola* 271, 276, 317  
*griseolus* 205  
*grisescens* 40, 275  
*griseus* 188, 195  
*grossa* 245  
*grossipes* 286  
*guestfalica vaillanti* 29  
*guimari* 267  
*gummigutta* 184  
*guttata* 319  
*gymnostoma* 283  
*habilis* 89  
*haematodes* 350, 351  
*haemorrhoidalis* 183, 339  
*haemorrhous* 249  
*haeretica* 340  
*halophilus* 63, 99  
*halophora* 331  
*halterata* 234, 345  
*halvorseni* 89  
*hamata* 26, 281, 283  
*hamaticornis* 77  
*hamifera* 201  
*hamilkar* 196  
*haplopygus* 180  
*hasei* 341  
*hassani* 168  
*hauseri* 178, 185  
*haustellatus* 168  
*hecate* 311  
*heleni heleni* 179  
*helianthemi* 148  
*helianthi* 263  
*helluo* 357  
*helviscutellata* 70  
*hemerobioides* 161  
*hemiacantha* 160  
*hemimelas* 202  
*hemisia* 341  
*hennigi* 358, 363  
*hepaticoloris* 317  
*heraclei* 268  
*heratica* 294, 295  
*herbarum* 271  
*hercegovinae* 27  
*heringi* 247  
*hermes* 32  
*hermonensis* 249, 276  
*herpini* 289  
*hespera* 207  
*hestia* 267  
*heteroclitus* 67  
*heteroneura* 303, 344  
*heteroneurus* 185, 187  
*heteropilosus* 196  
*heteropterus* 198  
*hetrusca* 202  
*heteropygus* 227  
*heusdensis* 116  
*hexachaeta* 267  
*hiemalis* 34, 280  
*hilaris* 350  
*hirsuta* 256  
*hirsutipes* 23  
*hirticollis* 90  
*hirticula* 301  
*hirtimana* 75  
*hirtipes* 118, 348  
*hirtula* 301  
*hirundinis* 320  
*hispaniae* 176  
*hispanica* 28, 89, 184, 260, 277, 301  
*hispanicus* 27, 259  
*hispanus* 180, 205  
*hispidus* 185  
*histrion* 110  
*holosericea* 359, 363  
*holosericeus* 199  
*holoxanthos* 227  
*holsata* 95  
*homobifida* 298  
*hordeacea* 324  
*hordei* 150  
*horni* 115  
*hortensis* 56  
*horticola* 281  
*hortulanus* 145  
*hortularum* 145  
*hottentotta* 206  
*hottentotus* 206  
*huberi* 322  
*huidobrensis* 282  
*humeralis* 40, 145, 155, 294, 327  
*humilis* 9, 299, 329  
*humphriesiae* 99  
*hungarica* 287, 304  
*hungaricus* 240  
*hurkmansi* 243  
*hutsoni* 21, 230  
*hyalipennis* 157, 188  
*hybrida* 23  
*hybridus* 145  
*hydei* 307  
*hygropetrica* 25, 69  
*hygropetricus* 89  
*hygropterica* 78  
*hyoscyami* 325  
*hyrcanus* 192  
*ibalia* 340  
*ibari* 311  
*iberiana* 158  
*iberica* 32, 160, 349, 362  
*iberica iberica* 32  
*iberica spinula* 32  
*ibericus* 22, 234, 242, 243  
*iberolutea* 157  
*ibizana* 284  
*ibleum* 124

- icadion* 342  
*icenica* 155  
*idia* 260  
*ifranensis* 217  
*ignava* 328  
*ignorata* 190  
*iliaca* 350, 352  
*ilicis* 147  
*ilkleyensis* 87  
*illimbatus* 80  
*imberbis* 350, 352  
*imbrida* 323  
*imicola* 61  
*immaculata* 28  
*immigrans* 307  
*immoderata* 282  
*impavida* 342  
*impensus impensus* 94  
*impudicus* 57  
*inaequalis* 188  
*inanis* 246  
*incana* 205  
*incanus* 205  
*incisa* 189, 281  
*incisuralis* 286  
*incisus* 189  
*inclinata* 160  
*inclinatus* 176  
*incompleta* 268  
*inconspicua* 352  
*inconstans* 180, 271  
*incurva* 310  
*indianus* 309  
*indicus* 309  
*indigena* 345  
*indigenus* 223  
*indistinctus* 68  
*inermis* 291  
*inermis* 298, 316  
*inexpectata* 42, 330  
*infantula* 361  
*inflatus* 176  
*infusata* 200  
*infuscatus* 221  
*innoxia* 353  
*inopertus* 113  
*insignipes* 77  
*insignis* 221  
*insons* 152  
*intermedia* 356  
*intermedium* 133, 152, 250  
*intermedius* 173  
*intermittens* 280  
*interrupta* 253, 288  
*interruptus* 288  
*intestata* 155  
*intestinalis* 339  
*intonsa* 245  
*intonsus* 191, 207  
*inulaedyssentericae* 262  
*iphippus* 187  
*iphis* 187  
*irmgardis* 160  
*irregularis* 28  
*irritans* 334  
*irritus* 94  
*ischyrus* 187  
*isis* 202  
*italica* 170, 203, 310, 321  
*italicus* 167, 243  
*ixion* 206  
*jacchus* 203  
*jacobsoni* 347  
*jaculata* 262  
*javita* 346, 348  
*jeskei* 159  
*jorlii* 303  
*jubatus* 184  
*jucunda* 22  
*jugorum* 216, 238  
*jugulum* 182  
*jumineri* 67  
*junceus* 187  
*junci* 112  
*juncorum* 271  
*kabuli* 303  
*kazeruni* 36  
*kerzhneri* 271  
*kettaniae* 258  
*kibunensis* 67  
*kingi* 66  
*kiritshenkoi* 202  
*knidirii* 130  
*kocheri* 187  
*kollari* 322  
*kowarzi* 331  
*kraatzi* 76  
*krimensis* 326  
*kuntzei* 307  
*kurensis* 67  
*kuthyi* 235  
*laamii* 118  
*labranchiae* 44  
*lachesis* 201  
*lacteibasis* 295  
*lacteipennis* 145, 212, 296, 314  
*lacustre* 223  
*lacustris* 43, 81, 112, 269, 313  
*laeta* 74, 299  
*laetum* 107  
*laetus* 84, 227  
*laevatrispina* 274  
*laevifrons* 292  
*laevis* 206, 230  
*lagura* 304  
*lailae* 68  
*lamachi* 131  
*lambi* 171  
*laminatum* 106  
*lanceolatum* 226  
*landauae* 67  
*landrocki* 28  
*langeroni* 35, 67  
*langtoni* 113  
*laniger* 184  
*lanigerus* 145  
*lapidosa* 345  
*lappae* 280  
*lapponicus* 252  
*larachensis* 219  
*larvarum* 354  
*larvipara* 333  
*lata* 349  
*laterale* 315  
*lateralis* 20, 34, 201, 278, 281, 282, 358  
*lateritia* 356, 363  
*laticincta* 255  
*laticintus* 52

- laticornis* 259  
*latifasciatus* 251  
*latifrons* 192, 245, 258, 345  
*latimucro* 118, 119  
*latina* 39  
*latinum* 121, 123  
*latistriatus* 171  
*latistyla* 24  
*latitarsis* 77  
*latiusculus* 163  
*latizonum* 122  
*latreillei* 321  
*laufferi* 145  
*laurae* 70  
*lauta* 266  
*lecerfi* 174  
*leclercqi* 276  
*leclercqiana* 340  
*legeri* 76  
*lehmanni* 348  
*leleani* 173  
*lemariei* 344, 348  
*lembkei* 158  
*lendli* 104  
*lentiginosa* 74  
*leo* 31  
*leontodontis* 265  
*leotoni* 316  
*lepida* 326  
*leucicoma* 183  
*leucocephala* 344  
*leucocephalus* 182  
*leucocomus* 183  
*leucopeza* 284  
*leucophaetus* 187  
*leucopterus* 145  
*leucopygus* 195  
*leucosticta* 326  
*leucostoma* 206, 310, 328  
*levantinus* 82  
*levida* 328  
*lewisi* 36  
*lichtensteinii* 148  
*licina* 272  
*lignicola* 93  
*limbata* 165  
*limbatellus* 95  
*limbatus* 184, 289  
*limosina* 317  
*lindbergi* 239, 289  
*lindrothi* 112  
*lineatum* 339  
*lineola* 24  
*liquida* 246  
*litoralis* 345  
*litorea* 58, 331  
*litorella* 330  
*littoralis* 312  
*liturata* 323  
*lobata* 81  
*lobifera* 87  
*loewi* 189, 331  
*loewianus* 172  
*longeciliata* 218  
*longepilosa* 295  
*longestylata* 346  
*longiareolata* 57  
*longicauda* 231, 265, 268  
*longicollis* 25  
*longicornis* 165, 170, 236, 243, 351  
*longicuspis* 36  
*longifurca* 79  
*longimana* 75  
*longipennis* 64, 320  
*longirostris* 163, 262, 286, 293, 359  
*longiseta* 273  
*longistyla* 71  
*longistylus* 100, 261  
*longitarsis* 179  
*longitarsus* 192  
*longiventris* 220  
*longula* 246, 325  
*longulus* 227  
*loripes* 227  
*loustau* 205  
*lucens* 79  
*lucichaeta* 158  
*lucida* 239  
*lucidifrons* 213  
*lucidus* 202  
*lucorum* 335, 352, 362  
*luculenta* 207  
*lugubris* 214, 302, 345, 353  
*lunata* 32, 342  
*lunatus* 174, 240  
*lundstromi* 125  
*lunensis* 42  
*luniger* 251  
*lunulatus* 240  
*lunulicornis* 28  
*lurida* 289  
*luridus* 100  
*lusitanica* 171  
*lusitanicum* 303  
*lusitanicus* 209  
*lutaria* 337  
*lutea* 21, 233  
*luteata* 30  
*luteipes* 91, 222  
*luteitarsis* 280  
*luteola* 147, 268  
*luteovillosa* 340  
*lutosa* 313  
*lutosoidea* 304  
*lyneborgi* 202, 231  
*macellaria* 312  
*macquardti* 239  
*macquarti* 191  
*macrocerum* 226  
*macroglossus* 196  
*macrostigma* 27  
*macrura* 262  
*macularis* 213, 360  
*maculata* 22, 60, 309, 318, 320, 334, 346  
*maculatus* 168  
*maculicornis* 174  
*maculifrons* 302  
*maculigera* 255  
*maculipennis* 73, 109, 197, 355, 363  
*maculiventris* 163, 317  
*maculosa* 356  
*madeirae* 89  
*madicola* 216  
*mageritensis* 353  
*maghrebeensis* 190  
*maghrebi* 199  
*magius* 227

- magnicornis* 362  
*magnifica* 345  
*mahunkai* 284  
*major* 18, 149, 189, 194, 279, 284  
*majoranae* 249  
*majuscula* 26, 98  
*mancus* 110  
*manicata* 316  
*manicatus* 186, 248  
*mantispa* 316  
*marcelleclercqi* 348  
*marci* 145  
*marcidus* 88  
*marcleti* 64  
*margaritae* 207  
*margaritatus* 309  
*marginale* 254  
*marginata* 154, 168, 211, 265  
*marginatis* 301  
*marginella* 343  
*mariae* 36, 50, 287  
*marina* 331  
*maritima* 271, 310, 324  
*maritimae* 223  
*maritimus* 67  
*marmorea* 268  
*marocana* 34, 39  
*marocanum* 140  
*maroccana* 24, 39, 42, 74, 166, 176, 191, 200, 210, 215, 218, 244, 246, 288, 300, 332, 337, 341, 344, 346, 352, 356, 361  
*maroccanum* 183, 288  
*maroccanus* 117, 168, 175, 180, 182, 188, 192, 196, 199, 200, 205, 210, 221, 222, 243  
*maroccoensis* 161  
*marokkana* 245  
*marokkanus* 248  
*marshalli* 347  
*marteri* 46  
*martii* 264  
*martinii* 57, 61  
*mascariensis* 338  
*matricariae* 266  
*maura* 164, 317, 320, 345  
*mauretanica* 73  
*mauritanica* 262, 314  
*mauritanicus* 167, 180, 196  
*mauritanus* 168, 194  
*maxima* 30  
*maynei* 38  
*mecogramma* 252  
*media* 224, 354, 363  
*meditabunda* 335  
*mediterranea* 33, 158, 277, 312, 330, 336  
*mediterraneus* 113  
*medius* 116, 194  
*megacephala* 270  
*megacephalus* 194, 208, 237  
*megalatlantica* 144, 215  
*megalopsis* 280  
*megaspis* 291  
*megerlei* 204  
*meijerei* 285  
*melaleuca* 331  
*melaleucus* 81, 186  
*melandryi* 280  
*melania* 304  
*melanocephala* 343  
*melanocephalum* 193  
*melanogaster* 307  
*melanoleuca* 288  
*melanops* 72  
*melanura* 75, 346  
*melitense* 297  
*mellah* 122  
*melleus* 211  
*mellinum* 247  
*melota* 240  
*melotus* 240  
*membranacea* 155  
*mendax* 116  
*mendizabali* 299  
*meneghinii* 311  
*menthastri* 253  
*mera* 61  
*mercatorum* 307  
*merceti* 210  
*merdaria* 337  
*meridionale* 260  
*meridionalis* 97, 249, 311, 334  
*merlei* 191, 199  
*mesnili* 358  
*metallica* 320  
*meyeri* 350  
*mgounica* 216  
*micacea* 224  
*micans* 84, 168, 212  
*micracantha* 178  
*microcera* 165  
*microchaeta* 309, 331  
*micropyga* 180  
*microstoma* 353  
*mihalyii* 298  
*miki* 174  
*mikianum* 106  
*mikii* 228, 329  
*milii* 281  
*mimeticus* 52  
*mimeuri* 306  
*minima* 20, 235, 346  
*minimus* 89  
*minor* 87, 194, 232, 257, 279, 320  
*minos* 203  
*minusculus* 180, 226  
*minuta* 37, 191  
*minutissima* 293  
*minutissimus* 69, 70  
*minutus* 37, 243  
*mirabilis* 284, 302  
*mirandus* 224  
*mitis* 25, 222  
*mittrei* 196  
*mixta* 329  
*mixticia* 332  
*mixtus* 197  
*m-nigrum* 295  
*modesta* 26, 39, 79, 304, 314, 317, 331, 359  
*modestus* 52, 102  
*moerens* 350, 362  
*mohrigi* 146

- molliculoides* 225  
*monilis* 71, 228, 326  
*montanus* 62  
*monticolus* 243  
*monticula* 288  
*monticulum* 288  
*morenae* 161, 221, 254  
*morio* 26, 78, 202, 205  
*morionella* 281  
*moroccensis* 230  
*mosulensis* 65  
*mucronifera* 351  
*multicolor* 48  
*multifasciata* 261  
*multifasciatus* 261  
*mundum* 248, 256  
*muricata* 273  
*murina* 23, 153, 344  
*murorum* 243  
*murrayi* 73  
*mus* 194  
*muscicola* 80, 113  
*mutabilis* 245  
*mutata* 235  
*mutilus* 205, 208  
*nana* 161, 276, 280, 310, 331  
*napi* 148  
*nartshukiana* 293  
*nasalis* 339  
*nasica* 286  
*nasturtii* 148, 318  
*nasuta* 289  
*natalensis* 89  
*navasi* 151  
*nebulosa* 61, 71  
*nebulosus* 205  
*neglectus* 101  
*negrobovi* 227  
*nemorale* 24  
*nemoralis* 174  
*nemorum* 74, 359, 364  
*nervosus* 102  
*nevadensis* 329, 336  
*newsteadi* 63  
*nidorum* 80  
*niger* 93, 211  
*nigra* 42, 215, 255, 302, 335  
*nigrescens* 292, 328  
*nigricans* 75, 318, 325  
*nigricauda* 113, 266, 297  
*nigricornis* 258  
*nigrifacies* 171  
*nigrifrons* 163, 193  
*nigrimana* 260  
*nigrina* 359  
*nigrinus* 163  
*nigripenne* 313  
*nigripennis* 175, 313  
*nigripes* 165, 271, 297, 342, 349  
*nigrispina* 158  
*nigrita* 256, 349  
*nigritarsis* 231, 269, 312, 325  
*nigritella* 310  
*nigritellus* 230  
*nigritula* 70  
*nigritus* 170  
*nigriventris* 145, 175, 289, 347  
*nigrocaerulea* 221  
*nigrociliata* 280  
*nigrofasciata* 354  
*nigrohalteralis* 106  
*nigrosetosa* 229  
*nigrosetosus* 180  
*nigrovillosus* 177  
*nigrum* 295, 297  
*nikita* 217  
*nilicola* 187, 222  
*nilotica* 301, 311  
*ninae* 89  
*niphobleta* 207  
*nitida* 319  
*nitidifrons* 133  
*nitidigenis* 293  
*nitidissima* 293  
*nitidiventris* 155, 359  
*nitidula* 278, 311  
*nitidulus* ssp. *nitidulus* 192  
*nitidum* 297  
*nivalis* 331  
*niveipennis* 279, 301, 314  
*niveus* 194  
*nivosa* 78  
*noctivagus* 76, 99  
*nomadorum* 204  
*northumbrica* 74  
*norvegica* 326  
*notata* 42, 290, 299  
*notatus* 102, 222  
*notescens* 112  
*notha* 182  
*nova* 118, 136, 354  
*novakii* 189, 293  
*novemguttata* 215  
*novemmaculata* 26  
*novercoides* 346, 348  
*nuba* 251, 345  
*nubecula* 312  
*nubeculipennis* 255  
*nubeculosa* 27  
*nubeculosum* 107  
*nubens* 105  
*nubifer* 107  
*nubila* 39, 75  
*nubilus* 186  
*nudipennis* 94  
*nudisquama* 106  
*nuditarsis* 100  
*nudiuscula* 315  
*nudum* 198, 208, 230  
*nudus* 240  
*numidica* 39, 61, 360, 364  
*numidus* 194  
*nuragica* 122  
*oasis* 268, 283, 356  
*obesa* 358  
*oblidens* 92  
*obliquata* 354  
*obliquus* 240  
*obliterata* 276  
*oblongus* 198  
*obreptans* 101  
*obscura* 26, 200, 318  
*obs curella* 314  
*obs curellum* 221  
*obs curellus* 221  
*obscuripennis* 182, 201, 274, 306  
*obscuripes* 90, 231, 311

- obscuriventris* 31  
*obscurus* 22, 243  
*obsidianum* 358  
*obsignata* 330  
*obsoleta* 313  
*obsoletus* 62  
*obtusa* 96  
*obtusiapex* 22  
*obumbratus* 92  
*obvia* 346  
*obvius* 95  
*oceanus* 223  
*ocellata* 215  
*ocelligera* 171  
*ochracea* 164, 287  
*ochripes* 302  
*ochriventris* 180  
*ochrostoma* 250  
*oculata* 215  
*odiatus* 68  
*odibilis* 66  
*odontophallus* 185  
*oestracea* 344  
*olcesci* 181  
*oleae* 261  
*oleisuga* 151  
*oleracea* 33  
*olfaciens* 352  
*olivacea* 79  
*olympiae* 330  
*ontario-group* sp. 1 109  
*oosterbroeki* 272  
*opulenta* 151  
*orbicula* 175  
*orbona* 282  
*orbonella* 282  
*ordinata* 315  
*origani* 147  
*orizae* 291, 295  
*ornata* 73, 188, 317, 355  
*ornaticollis* 88  
*ornatifrons* 294  
*ornatum* 133, 134, 135, 254  
*ornatus* 84, 183, 240  
*orobanchia* 283  
*oscillans* 269  
*oscinina* 292  
*osellai* 85  
*osiris* 179, 333  
*ostiorum* 231  
*ouedorum* 216  
*ovedorum* 216  
*ovinus* 321  
*ovis* 339  
*oxoniana* 88  
*oxyphora* 299, 300  
*pabulorum* 328  
*pachycera* 290  
*pachycerus* 231  
*palettaris* 116  
*pallasii* 199  
*pallens* 103, 268  
*palliceps* 257  
*pallida* 175, 272, 299, 309, 319  
*pallidibasis* 326  
*pallidicornis* 69, 102, 116  
*pallidipes* 83  
*pallidiventris* 167, 231, 305  
*pallidula* 72, 112  
*pallidus* 64, 111, 175  
*pallifrons* 204  
*pallipes* 224, 228, 287  
*pallirostris* 27  
*paludosa* 43, 82, 279  
*paludum* 313  
*palumbii* 272  
*pandellei* 330, 346  
*pandora* 203  
*panteli* 150  
*pantherina* 162  
*pantherinus* 163  
*paolae* 68  
*papatasi* 36  
*pappi* 35  
*paradoxa* 169  
*parahastatum* 291, 295  
*parallela* 274, 353  
*parallelus* 211  
*paralobi* 246  
*parappendiculatus* 185  
*parascripa* 189  
*parcepilosa* 160, 336  
*pardalina* 164  
*parilis* 105  
*parra* 351  
*parroti* 37, 64  
*parva* 246, 327  
*parvostylia* 146  
*parvulum* 221  
*parvulus* 90  
*pastoris* 78  
*pauli* 192, 194  
*pauliani* 26  
*paveli* 38  
*pavida* 355  
*pavonica* 215  
*Pe 1* 93, 94, 101, 118  
*Pe 1a* 89  
*Pe 2* 81, 88  
*Pe 2a* 98  
*Pe 2b* 98  
*Pe 3* 96, 114  
*Pe 5* 101, 111, 117  
*Pe 14* 117  
*Pe 23* 117  
*pecchiolii* 249  
*pecorum* 339  
*pectinatum* 226  
*pectinipes* 332  
*pectoralis* 158  
*pedella* 329  
*pedellus* 105  
*pedestre* 107  
*pedestris* 92, 282, 300  
*pedicularia* 321  
*pedissequum* 254  
*pedunculata* 184  
*pedunculatus* 184  
*pelio stigma pelio stigma* 32  
*pellea* 210  
*pellucens* 171, 328  
*pellucida* 257  
*pellucidus* 113  
*penicillata* 332, 347  
*pennatus* 219  
*pennipes* 358  
*pentaplastus* 89  
*pentapoda* 114  
*pentatoma* 118  
*pepo* 176

- perennis* 81  
*perexiguus* 53  
*perexilis* 61  
*perfiliewi* 36  
*periclymeni* 148  
*peringueyanus* 102  
*perniciosus* 36  
*perniveus* 196  
*pernix* 348  
*perpallida* 154  
*perplexus* 180  
*perpusilla* 159  
*persica* 332  
*persignata* 265  
*perspicillaris* 167, 206  
*perspicillaris* ssp. *perspicillaris* 206  
*pertinax* 238  
*petrei* 285  
*petricolum* 122  
*petrophila* 219, 224  
*petrophiloides* 224  
*phalerata* 307, 361  
*pharao* 107  
*pharaonis* 347  
*phillyreae* 147, 283  
*philocalus* 182  
*philonis* 236  
*photophilus* 114  
*phragmitidis* 27  
*physadia* 211  
*physadius* 211  
*picta* 257, 301, 319, 349  
*pictipennis* 68, 287  
*pictipes* 286  
*pictula* 154  
*pictulus* 109  
*picturatus* 69  
*pieltaini* 177  
*piger* 81, 100  
*pilibasis* 350  
*pilimana* 316  
*pilipes* 23, 180, 274, 324, 356  
*pilipyga* 324  
*pilitarsis* 344  
*pilitibia* 228  
*pilosa* 212, 288  
*pilosimanus* 102  
*pilosus* 180, 212  
*pilularia* 39  
*pipiens* 53, 245  
*pirivora* 148  
*pjotri* 32  
*placida* 158  
*planipalpis* 324  
*planitarsis* 222  
*platura* 324  
*platypus* 95  
*plebeja* 214  
*plicatrix* 148  
*plumicornis* 273  
*plumosa* 315  
*plumosula* 303  
*plumosus* 100  
*pluriseta* 344  
*pluvialis* 171, 323  
*podagrica* 236  
*polita* 311  
*pollinifrons* 330  
*pollinosa* 319  
*polyodon* 344  
*polyphemus* 206  
*polystigma* 271, 335  
*pomona* 145  
*ponti* 340  
*porcus* 187  
*postglobiformis* 160  
*postica* 266  
*posticata* 319  
*posticus* 194  
*postversicolor* 195  
*powelli* 169, 214  
*praeceps* 360, 362, 364  
*praecox* 223, 266  
*praelusia* 183  
*praeparvula* 160  
*praetexta* 329  
*praetextatus* 220  
*prasinus sensu* 100  
*pratensis* 354, 363  
*pratorum* 97, 238, 290  
*prima* 287  
*prionophallus* 185  
*proboscidea* 280  
*proboscideus* 163  
*procellaris* 323  
*procerus* 114  
*producta* 264  
*prolapsa* 328  
*promissa* 158  
*propinqua* 40  
*propinquans* 297  
*propinquus* 23  
*protuberans* 348  
*proximum* 297  
*pruina* 108  
*pruinosa* 306  
*pruni* 243  
*pseudequinum* 141  
*pseudexquisita* 39  
*pseudirritus* 94  
*pseudocinerascens* 32  
*pseudococci* 148  
*pseudocretensis* 153  
*pseudoexiguus* 231  
*pseudogonatistes* 180  
*pseudohirta* 229  
*pseudoleucoptera* 304  
*pseudolusitanica* 171  
*pseudomontana* 87  
*pseudopallidus* 68  
*pseudounguiculata* 231  
*pseudounguiculatus* 231  
*psittacinus* 101  
*pteremoides* 303  
*ptilostemi* 268  
*pubera* 312  
*puberula* 61  
*pubescens* 292, 318  
*pulchella* 164, 315  
*pulchellus* 172, 198, 240  
*pulcherrimus* 249  
*pulchra* 38, 266, 272, 274  
*pulchripennis* 22  
*pulchripes* 83  
*pulchritarsis* 51  
*pulcripalpis* 59  
*pulicaris* 63  
*pulicarius* 227  
*pulla* 327  
*pullata* 355



- pullula* 323  
*pullum* 108  
*pullus* 166  
*pumila* 329  
*pumilio* 89, 197  
*pumilionis* 287, 289  
*pumilus* 69, 195, 228, 241, 244  
*punctatus* 63, 144, 145, 193  
*puncticollis* 64  
*punctifer* 167, 251  
*punctifera* 225  
*punctiferus* 188  
*punctifrons* 240, 294  
*punctigera* 22  
*punctipennis* 76, 89, 197, 198  
*punctulata* 76, 277, 341  
*punctum* 278  
*punica* 147  
*purpureus* 339  
*pusilla* 103, 189, 255, 257, 282, 293, 305, 358  
*pusillum* 128  
*pusillus* 175, 186, 240  
*pusio* 188, 302  
*pustulata* 32  
*pygmaea* 281, 317, 332, 345  
*pygmalion* 157, 204  
*pyrastris* 252  
*pyrivora* 148  
*pyrrhophaeus* 185  
*quadrata* 313  
*quadrifarius* 172  
*quadrifasciatus* 249  
*quadrifila* 142  
*quadrifilatum* 221  
*quadriguttatum* 108  
*quadrinotatum* 297  
*quadrinotatus* 186  
*quadripectinatum* 316  
*quadripunctata* 311, 327  
*quadrum* 336  
*quaesita* 304  
*quatuornotatus* 174  
*quedenfeldti* 198, 208  
*quinquelineatus* 237  
*quinquemaculata* 312, 323  
*rachiliense* 120  
*raclinae* 169, 233  
*radicum* 324  
*ramulosa* 264  
*ramulosus* 264  
*ranula* 286  
*ranunculi* 283, 318  
*raphanistri* 149  
*raptor luteipes* 222  
*rara* 164  
*ravus* 64  
*reaumurii* 151  
*recta* 88  
*rectinervis* 90  
*recurvatus* 116  
*reflexa* 158  
*regelationis* 35  
*reghayana* 40  
*regularis* 158  
*reissi* 110, 114  
*relictus* 167  
*rendina* 354, 363  
*repanda* 354  
*repentina* 30  
*repleta* 307  
*reticulatus* 145  
*reversio* 336  
*rharbia* 318  
*rhenanus* 114  
*ribesii* 254  
*richardi* 336  
*richiardii* 59  
*rifensis* 31, 97, 228  
*rifincola* 144  
*rigida* 332  
*ringei* 114  
*riojaensis* 231  
*riouxi* 36  
*riparia* 60, 318, 330  
*riparius* 100  
*ripicola* 316  
*rivicola* 91  
*rivularis* 204  
*rivulorum* 91  
*robusta* 298  
*rocina* 32  
*rodgersi* 246  
*roghii* 224  
*rohaceki* 302  
*rondensis* 280  
*roralis* 342  
*rorida* 273  
*rosae* 148  
*rosarum* 148  
*rosenschoeldi* 110  
*rossica* 346  
*rossicus* 196  
*rostellata* 265  
*rostratus* 101  
*rotundatum* 357  
*rozkosnyi* 162, 281  
*ruandae* 106  
*rubi* 149  
*rubicunda* 183  
*rubicundus* 92  
*rubida* 313  
*rubinipes* 181  
*rubricosa* 343  
*rubrifrons* 355  
*rubriventris* 185  
*rubrostriata* 307  
*rubzovianum* 123  
*rudis* 340  
*rueppelli* 253  
*rufa* 182, 233, 237, 244  
*rufescens* 35, 159, 291  
*ruffoi* 93  
*ruficauda* 181  
*ruficeps* 294  
*ruficorne* 124, 125  
*ruficornis* 177, 255, 292, 294, 361, 364  
*ruficrura* 340  
*rufifrons* 291, 295, 302, 309, 356  
*rufimana* 330  
*rufina* 33, 325  
*rufina rufina* 33  
*rufinasutus* 251  
*rufipalpis* 336  
*rufipes* 118, 120, 177, 182, 228, 246, 255, 288, 293, 313, 319  
*rufitarsis* 301

- rufithorax* 292, 310  
*rufiventris* 85, 298, 300, 360  
*rufomaculata* 350, 362  
*rufum* 297  
*rufus* 244  
*ruginosa* 158  
*rungsi* 183, 200, 209, 213, 340, 353, 357  
*ruralis* 351  
*ruricola* 350  
*rustica* 152, 199  
*rusticus* 51  
*rutila* 203  
*rutilans* 310, 344  
*ruttneri* 88  
*sabaea* 201  
*sabinus* 220  
*sabulona* 290  
*sabulonum* 240  
*sabulosum* 223  
*saccata* 160  
*saevus* 65  
*sagittalis* 76  
*sahariensis* 65  
*salicorniae* 147, 149  
*salinarius* 100  
*saltator* 35  
*saltuum* 332  
*santonicus* 65  
*santorina* 158  
*sarda* 291  
*sardiniensis* 35  
*sareptana* 183  
*sativae* 161  
*saudensis* 206, 209  
*saxicola* 92  
*scabricornis* 158  
*scalaenum* 108  
*scalare* 248  
*scalaris* 326, 332  
*scapularum* 290  
*scatopsiformis* 156  
*schachti* 218, 236  
*schembrii* 316  
*schineri* 188  
*schlueteri* 269  
*schmideggeri* 240  
*schmidli* 321  
*schmidtlii* 321  
*schrinkelae* 112  
*schultzei* 66  
*schwetzi* 37  
*scoticus* 62  
*scripta* 253  
*scrobiculata* 291  
*scrophulariae* 147, 282  
*scutata* 288  
*scutellaris* 43, 191, 301  
*scutellata* 81, 246, 336  
*scutellatus* 202  
*scutopilosus* 220  
*secalina* 280  
*securigera* 216  
*securis* 325  
*segetum* 244  
*segnis* 245  
*segregata* 354  
*sejfadinei* 66  
*selenaria* 32  
*selenitica* 253  
*seleniticus* 253  
*semiargentea* 199  
*semifumosus* 255  
*semifuscus* 195  
*semimaculatus* 65  
*seminationis* 260  
*semipedestris* 160  
*semivirens* 97  
*senex* 196  
*senilis* 185  
*separabilis* 115  
*separata* 353  
*separatus* 197, 219  
*sepia* 325  
*sepium* 25  
*septemmaculatus* 102  
*sepulchralis* 238  
*sepuleralis* 238  
*serena* 334  
*serenus* 289  
*sergenti* 36, 65, 142  
*sergentii* 49  
*sericata* 26, 338  
*sericoma* 152  
*serotina* 61  
*serratosioi* 88  
*serratula* 268  
*serratulae* 268  
*serrulatus* 244  
*setibarba* 359  
*setifacies* 353, 360  
*setiger* 230  
*setosa* 322  
*setosus* 198, 207, 234, 244  
*sexmaculata* 336  
*sexpunctata* 22  
*sexspinus* 184  
*shaklawensis* 68  
*shelkovnikovi* 192  
*sibilans* 313  
*sicana* 303  
*sicanus* 181  
*sicula* 21, 265  
*siculus* 145  
*signata* 336, 343  
*signatipennis* 37  
*signatus* 117  
*signifer* 220  
*signifera* 210  
*silacea* 325  
*silvatica* 302  
*similis* 65, 83, 87, 164, 238, 299  
*simillima* 156  
*simonyi* 191  
*simplex* 266, 316, 328, 332  
*simplicissimus* 227  
*simpsoni* 55  
*simulans* 308  
*simulator* 68  
*sinaica* 350  
*singularis* 204, 211  
*sirouana* 144  
*skirwithensis* 85  
*smaragdi* 259  
*smaragdina* 270  
*soccata* 327  
*sociella* 327  
*sola* 357  
*solennis* 325  
*solodovnikovi* 225

- solstitialis* 262  
*somogyii* 301  
*sonchi* 263, 282  
*sophron* 244  
*sorbens* 333  
*sordens* 106  
*sordida* 154, 301  
*sordidella* 291  
*sordidellus* 95  
*soror* 246, 276, 297, 348, 359, 364  
*sororcula* 22, 264  
*sp.* 41, 42, 73, 93, 109, 110, 115, 118, 120, 136, 212, 215, 234, 235, 259, 271, 287, 296, 298, 300, 316, 337, 348  
*sp. 1* 41, 42, 109, 212  
*sp. 2* 41, 42, 212  
*sp A* 93, 103  
*spatenkai* 185  
*spathulatus* 221  
*sp B* 103  
*sp. d* 93  
*spec. Greichenland* 73  
*speciosa* 296  
*spectabilis* 154, 172  
*spenceri* 280  
*sphegea* 277  
*sphenoptera* 229  
*sphondylii* 278  
*spicata* 242, 283  
*spicatus* 242  
*spiciceps* 160  
*spiloptera* 214  
*spinata* 143  
*spinipes* 242, 277  
*spinosa* 14, 260, 283  
*spinulosa* 214  
*spissipes* 185  
*splendens* 162, 236  
*splendidus* 166  
*sp. nov.* 110, 115, 215  
*sp. Ourika* 73  
*spp.* 288  
*spuria* 229  
*stabulans* 328  
*stackelbergi* 64  
*stagnalis* 314  
*stagnicola* 318  
*staryi* 20  
*steinboeckii* 77  
*stellata* 267  
*stercoraria* 337  
*stercorarius* 80  
*stichospila* 276  
*stictica* 193, 266  
*sticticus* 110  
*stigi* 340  
*stigma* 257  
*stigmatica* 214  
*stimulosa* 32  
*stipidaria* 160  
*stramineus* 192  
*striata* 274, 348  
*striatus* 106, 177, 185  
*strigata* 214  
*strigatoides* 154  
*strigatus* 241, 249  
*strigipes* 220  
*strobli* 292  
*strobliana* 287  
*stupida* 204  
*stylatus* 94, 262  
*stylicornis* 197  
*styliforceps* 153  
*styriaca* 217  
*suavis* 219  
*subalbiceps* 318  
*subanalis* 30  
*subapicalis* 217  
*subarmata* 161  
*subcavipes* 160  
*subcoleoptrata* 358  
*subcylindrica* 171  
*suberis* 217  
*subfagineus* 64  
*subfalcata* 32  
*subfasciipennis* 69  
*subflavofemoratus* 192  
*subguttata* 313  
*sublunaticornis* 172  
*submaculata* 61  
*submaculosa* 30  
*subnubilus* 230  
*subobscura* 308  
*subochrea* 59  
*subornatus* 241  
*subparvula* 160  
*subpunctata* 319  
*subpustulata* 32  
*subravus* 64  
*subrufescens* 158  
*subsantorina* 158  
*subsessilis* 237  
*subsultans* 315  
*subtenella* 21  
*subuliginosus* 163  
*subventa* 336  
*subvernalis* 80  
*subviatica* 160  
*subvittata* 273  
*succinea* 267  
*sudeticus* 174  
*suillorum* 273  
*sulcicollis* 294  
*sulcifrons* 290  
*sullingtonensis* 30  
*suplicans* 101  
*surcoufi* 30, 169  
*suzukii* 308  
*sylvarum* 65  
*sylvestris* 84  
*symplectoidea* 23  
*symplectoides* 21  
*syngenesiae* 260, 282  
*szelenyii* 337  
*sziladyi* 22  
*tabaniformis* 343  
*tabaninus-arabicola* 206, 209  
*tabidiventris* 274  
*taeniata* 253  
*taeniolata* 189  
*taeniops* 238  
*taffertensis* 217  
*talboti* 197  
*tamaricum* 150  
*tangerensis* 244, 346  
*tangeriana* 232, 269  
*tangerinus* 205

- tarsata* 259  
*tassilaensis* 182  
*tauscheri* 177  
*tazzekai* 33  
*temaranus* 222  
*tempestatum* 323  
*tempestaiva* 333  
*temula* 360  
*tenax* 238  
*tendens* 102  
*tendipediformis* 103  
*tenebricosa* 38, 70  
*tenebricosus* 38  
*tenella* 22, 216  
*tenellula* 113  
*tenellulus* 113  
*tenellus* 228  
*tener* 104, 198  
*tentaculata* 332  
*tentans* 101  
*tenuicornis* 164, 170  
*tenuicosta* 313  
*tenuipes* 218  
*tenuis* 113, 155, 217  
*teretirostris* 347  
*terminalis* 326  
*terminata* 164  
*tessellata* 264  
*tessellum* 360  
*testacea* 257, 325, 329  
*testaceifrons* 344  
*testaceus* 23  
*tetracrenatum* 108  
*tetraptera* 358  
*teutankhameni* 212  
*thalhammeri* 288  
*thapsiae* 149  
*thapsiana* 247  
*theileri* 55  
*theodori* 221  
*theryi* 255, 266  
*thienemanni* 38, 70, 77, 91  
*thomae* 161  
*thomasseti* 284  
*thoracica* 278  
*thummi* 100  
*thuriferae* 149  
*thymicola* 147  
*thyridophora* 200  
*tibialis* 249, 263, 347, 361  
*tifedarius* 255  
*tigrigrana* 217  
*tigrina* 329, 330  
*tilicola* 159  
*tinctus* 174  
*tingitanus* 178  
*tipularia* 337  
*tirolensis* 87  
*tirolus* 97  
*titillator* 339  
*todrhana* 217  
*tomentosa* 160, 188  
*tomentosus* 170  
*tomosvaryi* 118, 120  
*tonitrui* 335  
*tonsa* 77  
*torquatus* 195  
*torrentium* 164  
*toubkal* 129  
*toubkalana* 247  
*toubkalensis* 40  
*toxicodendri* 146  
*transitata* 159  
*transmarina* 21  
*transversa* 272  
*tredecimatum* 122  
*tremulus* 83  
*trepida* 350, 362  
*triangularis* 118, 287  
*triannulatus* 83  
*trichotibialis* 235  
*tricincta* 244  
*tricinctus* 84, 244  
*tridens* 108, 322  
*tridentatus* 146  
*trifaria* 200, 277  
*trifarius* 178  
*trifascia* 83  
*trifasciata* 202, 250  
*trifasciatum* 135  
*trifasciatus* 202  
*trifascipennis* 71  
*trifolii* 282  
*trigonus* 179  
*trilineata* 164  
*trilobata* 96  
*trimaculata* 336  
*trina* 345  
*trinacriae* 151  
*trinotatum* 202  
*triplaca* 352  
*tripunctata* 285  
*tripunctatum* 203  
*triseta* 354  
*trisetum* 297  
*tresignatus* 192  
*tristis* 234, 265  
*trivittata* 159  
*trivittatus* 239  
*trotteriana* 261  
*truncatus* 241  
*truncorum* 65, 224  
*tsacasi* 166  
*tschirnhausi* 298  
*tsigana* 307  
*tuberculata* 214, 328  
*tuberculatus* 80  
*tuberculosum* 272  
*tuberiperda* 299  
*tuberosa* 347  
*tuguriorum* 336  
*tumida* 157  
*tunisiae* 162  
*tuomikoskii* 153  
*turdi* 320  
*turficola* 70  
*turgidus* 231  
*tyrrhenica* 155  
*tysiphone* 201  
*uliginosa* 336  
*uliginosus* 163  
*ulrichi* 225  
*umbratica* 335  
*umbripennis* 191  
*uncicurva* 347  
*uncinatum* 107  
*undatus* 195  
*undulata* 232  
*unedo* 283  
*unguicornis* 244  
*unguiculata* 60

- ungulata* 330  
*unicolor* 155, 215, 241  
*unicornis* 314  
*uniformata* 40  
*unipunctata* 277, 306  
*uniseta* 304  
*univittatus* 68  
*unizona* 274  
*ursina* 342  
*ursinus* 90  
*urticae* 269  
*ustulata* 38, 259, 275  
*vacua* 355, 363  
*vagabunda* 341  
*vagans* 159, 191, 195, 302, 324  
*vaillanti* 29, 34, 77, 92  
*valerii* 150  
*valescurensis* 94  
*valgus* 247  
*valida* 155, 337  
*validus* 198  
*vandergooti* 249  
*vanderwulpi* 111  
*vaporariorum* 305  
*varia* 327  
*variabilis* 246  
*varians* 88  
*variata* 361  
*varicolor* 323  
*varicornis* 304  
*variegata* 289, 299, 309, 320  
*variegatum* 136, 137  
*variegatus* 168, 198  
*variofasciata* 262  
*variofasciatus* 262  
*varipalpis* 295  
*varipes* 145  
*varius* 71, 202  
*varvara* 224  
*vaulogeri* 257  
*veletensis* 78  
*velutina* 328  
*velutinifrons* 213  
*velutinum* 123, 124  
*velutinus* 205  
*venator* 222  
*venosus* 195  
*ventralis* 26, 163  
*ventricosi* 293  
*ventricosus* 95  
*ventriosa* 151  
*venturii* 358  
*venusta* 207  
*verbasci* 147, 280  
*verbekei* 277  
*vermileo* 175  
*vernum* 126, 130  
*verralli* 99, 117, 152  
*versicolor* 190, 195, 239  
*versutus* 224  
*vertebralis* 193  
*verticalis* 285  
*vespertina* 266, 335  
*vespiformis* 237  
*vestita* 190, 359, 364  
*veterinus* 339  
*vexans* 50  
*vexata* 321  
*viator* 72  
*vicina* 338, 352  
*vidourensis* 68  
*viduata* 239  
*viduatus* 167  
*vierriensis* 84  
*villeneuveana* 346  
*villiersi* 276  
*villosus* 145, 170  
*vimmeri* 280  
*vindicata* 293  
*violacea* 279  
*virens* 223, 268  
*virescens* 101  
*virginea* 326  
*virgo* 202  
*viridescens* 334  
*viridicyanea* 338  
*viridis* 103, 222, 223, 341, 359  
*vitai* 183  
*vitellinus* 81  
*vitripennis* 156, 161, 219, 254, 300, 302, 333  
*vitta* 155  
*vittata* 98, 159, 172, 256  
*vittipes* 155  
*vituli* 168  
*vivida* 161, 334  
*vockerothi* 231, 336  
*volaticum* 250  
*volgensis* 117  
*vomitoria* 338  
*vulcani* 155  
*vulgaris* 145, 353  
*vulneratus* 101  
*vultur* 184  
*wadensis* 201, 208  
*wahisi* 179  
*wahlgreni* 283  
*waltlii* 184  
*weissi* 342  
*weneri* 187  
*widanensis* 217  
*willistoni* 155  
*winthemi* 326  
*wuelkeri* 93  
*xanthinum* 138  
*xenolabis* 110  
*xenoreflexa* 159  
*yahavensis* 342  
*yahiae* 109  
*yaromi* 287  
*yorki* 327  
*zarcana* 217  
*zavreli* 78  
*zayensis* 303  
*zelleri* 228, 276  
*zernyana* 342  
*zernyi* 78, 112, 277, 298  
*zetterstedti* 216  
*ziemanni* 47  
*zizense* 297  
*zonaria* 247  
*zonatus* 175